

# HOW TO READ THE STANDARD OF GROOVING TOOLS

## ● How this section page is organised

- ① Classified according to external or internal applications.
- ② Sub-classified according to product series.  
(Refer to the index on the next page.)

[For External Grooving]

[For Internal Grooving]

**FIGURE SHOWING THE TOOLING APPLICATION** uses illustrations and arrows to depict available machining applications such as cutting off, grooving, copying, and recessing.

**INDICATION OF HOLDER TYPE ACCORDING TO APPLICATION** indicates the holder types, such as the standard type or the L type, according to machining application.

**TITLE OF PRODUCT** and **INDICATION OF EXTERNAL /INTERNAL APPLICATION** and **PRODUCT SECTION** and **PRODUCT FEATURES**

**HOLDER POSITION BY HAND OF TOOL /SPINDLE ROTATION**

**MIN. CUTTING DIAMETER** is colour-coded to let you find, at a glance, the minimum cutting diameters for internal machining.

**GEOMETRY**

**EXTERNAL GROOVING**  
**DG HOLDER**  
● Clamp-on type.  
● Groove width: 2-8mm.

**3 External cutting off, Grooving L type holder**

Pack Order Number	Stock #	Holder	Locator	Clamp Bridge	Max. Groove Depth #1 (mm)	Max. Groove Width #2 (mm)	Max. Groove Cut-off Diameter #3 (mm)	Dimensions (mm)						Insert Number	Insert Shape
								H	B	L1	L2	H2	F1		
E2207RL	●	DGHR/L2020KL	EA2/LR	DGK2/LR	2	10.5	32	20	20	125	25	20	45	DGM20DCE	
E2307RL	●	DGHR/L2020KL	EA3/LR	DGK3/LR	3	10.5	32	20	20	125	25	20	45	DGM20DCE	DOM_CFR
E3207RL	●	DGHR/L2525ML	EB2/LR	DGK2/LR	2	16	40	25	25	150	25	25	45	DGM20DCE	
E3307RL	●	DGHR/L2525ML	EB3/LR	DGK3/LR	3	16	40	25	25	150	25	25	45	DGM20DCE	
E3407RL	●	DGHR/L2525ML	EB4/LR	DGK4/LR	4	16	40	25	25	150	25	25	45	DGM20DCE	
E3507RL	●	DGHR/L2525ML	EB5/LR	DGK5/LR	5	16	40	25	25	150	25	25	45	DGM20DCE	DOJ_CFR
E3607RL	●	DGHR/L2525ML	EB6/LR	DGK6/LR	6	16	40	25	25	150	25	25	45	DGM20DCE	
E3707RL	●	DGHR/L2525ML	EB7/LR	DGK7/LR	7	16	40	25	25	150	25	25	45	DGM20DCE	
E3807RL	●	DGHR/L2525ML	EB8/LR	DGK8/LR	8	16	40	25	25	150	25	25	45	DGM20DCE	

**SPARE PARTS**

Tool Holder Number	Locator Screw	Clamp Screw	Spring	Wrench
DGHR/L2020KL	HSC04014	DGS51	MES2	HKY30R HKY40R
DGHR/L2525ML	HSC05012			

**RANGE OF GROOVING**

**DG HOLDER EXTERNAL CUTTING OFF, GROOVING L TYPE HOLDER**

● Inventory maintained, ● Inventory maintained in Japan, □ Non stock, produced to order only.

**INTERNAL GROOVING**  
**F TYPE**  
● Min. cutting diameter 23mm.  
● Clamp-on type.  
● Precision class insert.  
● Max. depth of groove: 3mm.

**FCL51 Internal grooving, Threading**

Order Number	Stock #	Insert Number	Dimensions (mm)						Min. Groove Depth #1 (mm)	Max. Groove Depth #2 (mm)	Standards	Clamp Bridge	Clamp Screw	Wrench
			D1	L1	L2	F1	H1	W						
FCL5116RL	●		16	200	35	11.5	14	23	3	0.1	LK1	HBH40412	HKY25R	
FCL5118RL	●		18	200	35	14.5	18	29	3	0.1	LK1	HBH40412	HKY25R	
FCL5120RL	●		20	250	40	17.0	22	34	3	0.1	LK1	HBH40412	HKY25R	
FCL5125RL	●		25	300	45	20.0	29	40	3	0.1	LK1	HBH40412	HKY25R	

**INSERTS**

Application	Order Number	Cement	Grade	Groove Width Thread Pitch (mm)	Dimensions (mm)					Geometry	
					L1	L2	L3	S1	Re		
Grooving	LGR1250	□	●	2.5	10	5	3.1	4	-	0.25	LGR(L)
	L1250	●	●	2.5	10	5	3.1	4	-	0.25	
	R1320	□	●	3.2	10	5	3.1	4	-	0.25	
	R1390	□	●	3.9	10	5	3.1	4	-	0.25	
	L1390	□	●	3.9	10	5	3.1	4	-	0.25	
Threading	L1400	□	●	4	10	5	3.1	4	-	0.25	
	L1600	□	●	0-0.8	10	5	-	4	0	-	LTR(L)60°
	R1601	●	●	1.0-1.75	10	5	-	4	0.1	-	
	L1601	●	●	1.0-1.75	10	5	-	4	0.1	-	
	R1602	●	●	2.0, 2.5	10	5	-	4	0.2	-	
	L1602	●	●	2.0, 2.5	10	5	-	4	0.2	-	

**LEGEND FOR STOCK STATUS MARK** is shown on the left hand page of each double-page spread.

**GRAPH OF MACHINING RANGE** depicts the available machining ranges according to the holder type.

**SPARE PARTS FOR HOLDER**

**PRODUCT STANDARDS** indicates order numbers, stock status (per right/left hand), holders, locators, clamp bridges, groove widths, maximum groove depths, maximum cut-off diameters, dimensions, applicable inserts, and cutting edge shapes.

**STANDARDS FOR APPLICABLE INSERTS** indicates stock status, dimensions, etc. for applicable inserts.

**LEGEND FOR STOCK STATUS MARK** is shown on the left hand page of each double-page spread.

● To Order: For holders, please specify order number and hand of the tool (right/left).  
For inserts, please specify insert number and grade.

# TURNING

# GROOVING TOOLS

CLASSIFICATION (EXTERNAL CUTTING)..... A272

CLASSIFICATION (INTERNAL CUTTING)..... A273

## STANDARD OF GROOVING TOOLS

### EXTERNAL CUTTING

CLASSIFICATION OF DG HOLDER..... A274

SELECTION OF DG HOLDER..... A275

IDENTIFICATION OF DG HOLDER..... A276

### DG HOLDER

1 EXTERNAL CUTTING OFF, GROOVING STANDARD TYPE HOLDER..... A278

2 EXTERNAL CUTTING OFF, COPYING STANDARD TYPE HOLDER..... A280

3 EXTERNAL CUTTING OFF, GROOVING L TYPE HOLDER..... A282

4 EXTERNAL CUTTING OFF, COPYING L TYPE HOLDER..... A283

5 EXTERNAL RECESSING, COPYING HOLDER..... A284

6 FACE GROOVING STANDARD TYPE HOLDER..... A286

7 FACE GROOVING, COPYING STANDARD TYPE HOLDER..... A290

8 FACE GROOVING L TYPE HOLDER..... A294

9 FACE GROOVING, COPYING L TYPE HOLDER..... A296

DG INSERTS..... A298

UG HOLDER..... A300

EG HOLDER..... A302

MG HOLDER..... A303

SMG HOLDER..... A306

### INTERNAL CUTTING

MICRO-MINI BORING BARS..... A307

MICRO-MINI TWIN BORING BARS..... A308

F TYPE BORING BARS..... A310


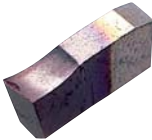


D TYPE BORING HEAD..... A316

# CLASSIFICATION




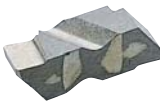






## EXTERNAL CUTTING

Name of Tool Holder	Insert Shape	Features	Groove Width According to Cutting Mode (mm)						Page
			Shallow Grooving	Deep Grooving	Cutting Off	Copying	Recessing	Face Grooving	
<b>DG</b> Holder 		<ul style="list-style-type: none"> <li>● Clamp-on type.</li> <li>● Various insert types.</li> <li>● Insert series for copying is available.</li> <li>● Face grooving series with minimum cutting diameter 20mm.</li> </ul>	2	2	2				A274
			3	3	3				
			4	4	4	3			
			5	5	5	4			
			6	6	6	5	4		
			7	7	7	6	5	3	
			8	8	8	6	6	4	
			8	8	8	8	8	8	
<b>UG</b> Holder 		<ul style="list-style-type: none"> <li>● Spring clamp type.</li> <li>● Strengthened insert clamping.</li> <li>● Block and blade type and solid type series.</li> <li>● Maximum cut off diameter 120mm.</li> </ul>	2.2	2.2	2.2				A300
			3.1	3.1	3.1				
			4.1	4.1	4.1				
			5.1	5.1	5.1				
			5.1	5.1	5.1				
<b>EG</b> Holder 		<ul style="list-style-type: none"> <li>● Clamp-on type.</li> <li>● High clamp rigidity due to integrated clamp bridge.</li> <li>● Excellent sharpness with positive inserts.</li> <li>● Maximum cut off diameter 50mm.</li> </ul>	3	3	3				A302
			4	4	4				
			5	5	5				
			6	6	6				
			6	6	6				
<b>MG</b> Holder 		<ul style="list-style-type: none"> <li>● Clamp-on type.</li> <li>● Precision class insert.</li> <li>● Positive insert suffers from negligible chattering and thus produces a good finished surface.</li> </ul>	1.25						A303
			6						
<b>SMG</b> Holder 		<ul style="list-style-type: none"> <li>● Screw-on type.</li> <li>● Precision class insert.</li> <li>● Positive insert suffers from negligible chattering and thus produces a good finished surface.</li> </ul>	0.3						A306
			1.3						
			1.3						
<b>GTAH</b> <b>GTBH</b> <b>GTCH</b> 		<ul style="list-style-type: none"> <li>● For gang type tool posts.</li> <li>● Small Shank : 8mm – 16mm</li> <li>● Possible to control the back clamping.</li> <li>● High rigidity due to design of vertical insert.</li> <li>● Economical due to the design of three-corner inserts.</li> </ul>	0.3						A212
			3.0						
			3.0						
<b>CTAH</b> 		<ul style="list-style-type: none"> <li>● For gang type tool posts.</li> <li>● Small Shank : 8mm – 16mm</li> <li>● Due to the design of handed tool holders, able to minimize accumulation of workpieces.</li> <li>● High rigidity due to design of vertical insert.</li> <li>● Maximum cut off diameter : 12mm</li> </ul>	0.7	0.7	0.7				A214
			1.0	1.0	1.0				
			1.5	1.5	1.5				
			2.0	2.0	2.0				
			2.0	2.0	2.0				
<b>CTBH</b> 		<ul style="list-style-type: none"> <li>● For gang type tool posts.</li> <li>● Small Shank : 10mm – 16mm</li> <li>● Single holder for inserts for back turning and cutting off.</li> <li>● High rigidity due to design of vertical insert.</li> <li>● Maximum cut off diameter : 16mm</li> </ul>	1.5	1.5	1.5				A216
			2.0	2.0	2.0				
			2.0	2.0	2.0				
<b>CTCH</b> 		<ul style="list-style-type: none"> <li>● For gang type tool posts.</li> <li>● Small Shank : 10mm, 12mm</li> <li>● High cutting edge sharpness and excellent chip discharge.</li> <li>● Maximum cut off diameter : 20mm</li> </ul>	2.2	2.2	2.2				A217
			2.5	2.5	2.5				
			2.5	2.5	2.5				
<b>CTDH</b> 		<ul style="list-style-type: none"> <li>● For gang type tool posts.</li> <li>● Small Shank : 16mm</li> <li>● High cutting edge sharpness and excellent chip discharge.</li> <li>● Maximum cut off diameter : 23 – 35mm</li> </ul>	2.5	2.5	2.5				A218
			2.5	2.5	2.5				
			2.5	2.5	2.5				


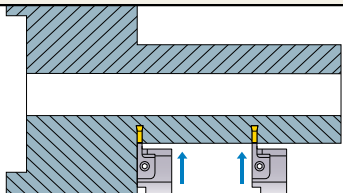

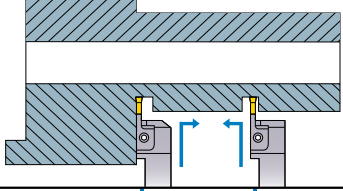

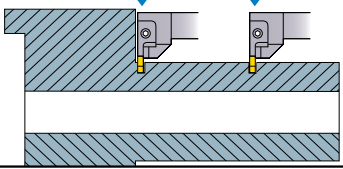

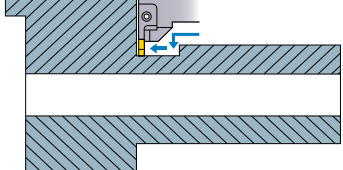

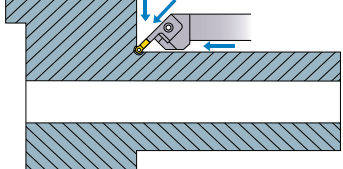

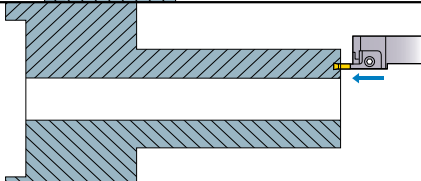

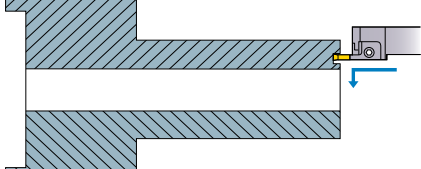

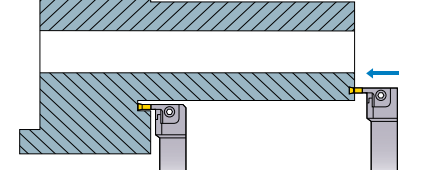

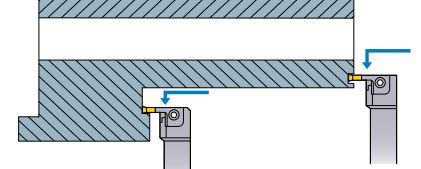
## EXTERNAL CUTTING

Name of Tool Holder	Insert Shape	Features	Groove Width According to Cutting Mode (mm)						Page
			Shallow Grooving	Deep Grooving	Cutting Off	Copying	Recessing	Face Grooving	
SMALL TOOLS	<b>CTEH</b> 	 <ul style="list-style-type: none"> <li>● For gang type tool posts.</li> <li>● Small Shank : 16mm</li> <li>● High cutting edge sharpness and excellent chip discharge.</li> <li>● Maximum cut off diameter : 23–35mm</li> </ul>	3.0	3.0	3.0				<b>A219</b>
	<b>CSVH</b> 	 <ul style="list-style-type: none"> <li>● For cam type tool posts.</li> <li>● Small Shank : 7–12mm</li> <li>● Single holder for front turning, back turning, grooving, threading and cutting off operations.</li> <li>● The most suitable for machining of small parts with diameter 5mm or smaller.</li> <li>● Maximum groove depth : 0.3–2.5mm</li> <li>● Maximum cut off diameter : 3–5mm</li> </ul>	0.25   1.5		0.6   1.5				<b>A223</b>

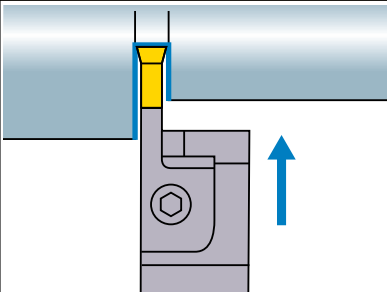

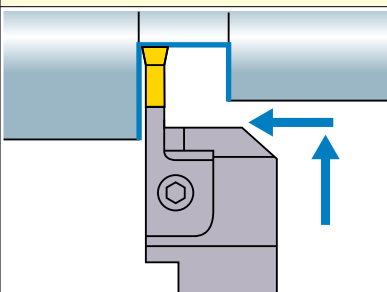

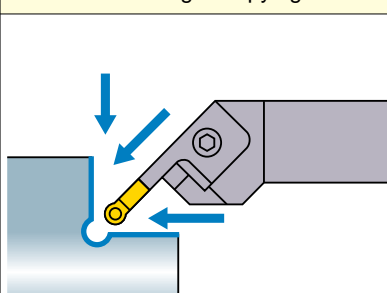

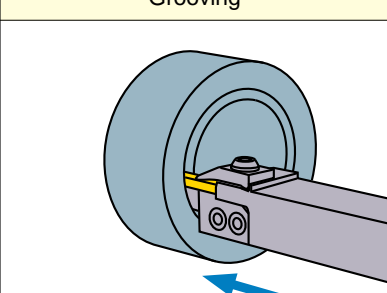

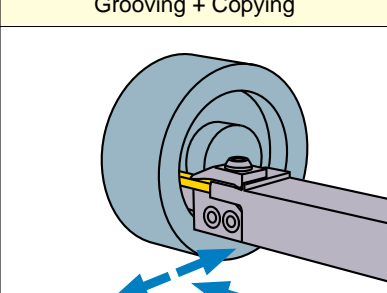
## INTERNAL CUTTING

Name of Tool Holder	Insert Shape	Features	Min. Cutting Diameter (mm)	Groove Width (mm)	Max. Groove Depth (mm)	Page
<b>FSL5</b> 	 <ul style="list-style-type: none"> <li>● Screw-on type.</li> <li>● Precision class insert.</li> <li>● Holder is capable of performing both grooving and threading.</li> <li>● Maximum groove depth 3mm.</li> </ul>	10	1.2   4.0	1.0   3.0	<b>A310</b>	
<b>FCL5</b> 	 <ul style="list-style-type: none"> <li>● Clamp-on type.</li> <li>● Precision class insert.</li> <li>● Holder is capable of performing both grooving and threading.</li> <li>● Maximum groove depth 3mm.</li> </ul>	23	2.5   4.0	3	<b>A312</b>	
<b>FCDG4</b> 	 <ul style="list-style-type: none"> <li>● Clamp-on type.</li> <li>● Available for grooving and copying.</li> <li>● Maximum groove depth 8mm.</li> </ul>	25	1   4	2   8	<b>A314</b>	
<b>DPT4</b> 	 <ul style="list-style-type: none"> <li>● Pin lock type.</li> <li>● Precision class insert.</li> <li>● Exchangeable head type.</li> </ul>	40	1.25   4.5	1.2   4.5	<b>A316</b>	
<b>MICRO-MINI TWIN Boring Bars</b> 	—	<ul style="list-style-type: none"> <li>● Solid carbide type.</li> <li>● Economical due to single holder with two cutting edges.</li> </ul>	3.0	1.0   2.0	1.0   3.0	<b>A308</b>
<b>MICRO-MINI Boring Bars</b> 	—	<ul style="list-style-type: none"> <li>● Solid carbide type.</li> <li>● Insert can be ground to suit the application.</li> </ul>	3.2	2.0   3.0	1.0   2.0	<b>A307</b>

# CLASSIFICATION OF DG HOLDER

Shape	Type	Cutting Mode	Page
	<b>1</b> ● External cutting off, grooving Standard type holder		A278
	<b>2</b> ● External cutting off, copying Standard type holder		A280
	<b>3</b> ● External cutting off, grooving L type holder		A282
	<b>4</b> ● External cutting off, copying L type holder		A283
	<b>5</b> ● External recessing, copying CT type holder		A284
	<b>6</b> ● Face grooving Standard type holder		A286
	<b>7</b> ● Face grooving, copying Standard type holder		A290
	<b>8</b> ● Face grooving L type holder		A294
	<b>9</b> ● Face grooving, copying L type holder		A296

# SELECTION OF DG HOLDER

Classification of DG Holder		Insert							
		Type	Insert Number	Features					
External Grooving	Cutting off, Grooving 	CE	DGM...CE 	<ul style="list-style-type: none"> <li>● Insert width less than 4mm, groove with standard type insert is deeper than groove with CT type insert.</li> <li>● Stocked precision class insert (DGJ...CE).</li> </ul>					
	Cutting off, Grooving + Copying 		CT		DGM...CT 	<ul style="list-style-type: none"> <li>● CT type insert has a three dimensional chip breaker for better chip control. Enables copying.</li> <li>● Stocked precision class insert (DGJ...CT1).</li> </ul>			
External Recessing	Recessing + Copying 	DGM...CTB 		<ul style="list-style-type: none"> <li>● CT type insert has a three dimensional chip breaker for better chip control. Enables recessing and copying.</li> </ul>					
		Face Grooving			Grooving 		CF	DGJ...CFS 	<ul style="list-style-type: none"> <li>● Stock precision class insert.</li> <li>● DGJ...CFS type insert is more suitable for cutting of small diameters than the CTF type insert due to a big clearance angle.</li> </ul>
					Grooving + Copying 			CTF	

# IDENTIFICATION OF DG HOLDER

## ■ DG HOLDER

**DGH** **R** **25** **25** **M** **F** **S**


① ② ③ ③ ④ ⑤ ⑥

① Designation	② Cutting Direction	③ Shank Size (Height and Width)	④ Shank Length (mm)	⑤ Holder Type	⑥ Locator Type	
	R Right L Left	16 16mm 20 20mm 25 25mm	K 124 – 125 M 149 – 150	None Standard F Standard with Off Set L L type C Recess type	Locator Type	Applicable Insert
					None Block Type	Length 25mm
					S Block Type	Length 20mm
					2G Solid Type	Groove Width 2mm / Length 25mm
					3G Solid Type	Groove Width 3mm / Length 25mm
					3 Solid Type	Groove Width 3mm / Length 20mm

## ■ CLAMP BRIDGE

**DGK** **3** **R**

① ② ③

① Designation	③ Cutting Direction	
	R Right L Left	
② Applicable Insert		
2	Groove Width 2mm	
3	Groove Width 3mm (Except DGJ30CFS and DGJ30CF)	
4	Groove Width 4mm (Except DGJ40CFS and DGJ40CF)	
5	Groove Width 5mm	
	DGJ30CFS (Groove Width 3mm)	Insert Shape 
	DGJ30CF (Groove Width 3mm)	
	DGJ40CFS (Groove Width 4mm)	
	DGJ40CF (Groove Width 4mm)	
6	Groove Width 6mm	
7	Groove Width 7mm	
8	Groove Width 8mm	

## ■ PACK NUMBER

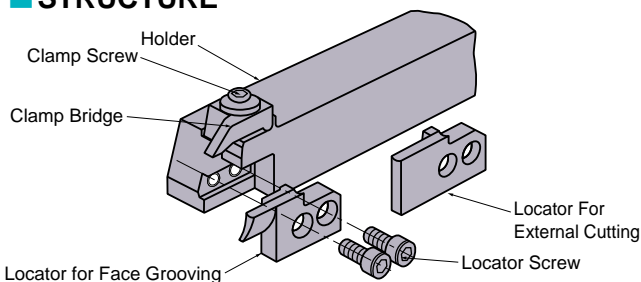
**A** **3** **50** **7** **R**

① ② ③ ④ ⑤

② Shank Size	③ Insert Width	⑤ Cutting Direction
1 16 x 16 2 20 x 20 3 25 x 25 4 25 x 25 (Face Grooving)	20 2.0mm 30 3.0mm 40 4.0mm 50 5.0mm 60 6.0mm 70 7.0mm 80 8.0mm	R Right L Left
④ Application		
0 Face Grooving	Grooving Diameter $\phi 20 - \phi 50$	
2 Face Grooving	Grooving Diameter $\phi 40 - \phi 100$ ( $\phi 50 - \phi 100$ )	
4 Face Grooving	Grooving Diameter $\phi 100 - \phi 250$ ( $\phi 100 - \phi \infty$ )	
7 External Grooving	For Square Insert	
8 External Grooving	For Other than Square Insert	

( ) Diameter is for minimum insert width 5mm.





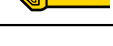

## ■ STRUCTURE



① Designation	
A,B,C,D	Standard Type for External Grooving
E,F	L Type for External Grooving
G	Recess Type for Recessing and Copying
H,J,K,L,M,N,P,Q	Standard Type for Face Grooving
R,S,T,U	L Type for Face Grooving

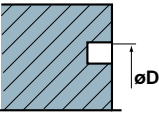
**LOCATOR [For External Grooving and Recessing]**









**E A 3 R S**  
 ① ② ③ ④ ⑤





①Application		②Shank Size (mm)		③Insert Width		④Cutting Direction		⑤Applicable Insert		
E	For External Grooving and Recessing	A	20 x 20	2	2mm	R	Right	None		25mm
		B	25 x 25	3	3mm	L	Left	S		20mm
				4	4mm			X		20mm, 25mm
				5	5mm					
				6	6mm					
				7	7mm					
				8	8mm					

**LOCATOR [For Face Grooving]**

**F B 5 R 2 D**  
 ① ② ③ ④ ⑤ ⑥

①Application		③Insert Width		④Cutting Direction		⑤Cutting Range		
F	Face Grooving	3	3mm	R	Right			
		4	4mm	L	Left			
		5	5mm			$\phi D$ (mm), Groove Width $\leq 4$ mm	$\phi D$ (mm), Groove Width $\leq 5$ mm	
		6	6mm			0	$\phi 20 - 50$	—
		7	7mm			2	$\phi 40 - 100$	$\phi 50 - 100$
		8	8mm			4	$\phi 100 - 250$	$\phi 100 - \infty$

②Shape Seen from the Spindle			
	Shank Size (mm)	Right	Left
A	20 x 20		
B	25 x 25		
C	20 x 20		
D	25 x 25		

⑥Applicable Insert		
	Shape	Insert Length
None		25mm
S		20mm
D		Deep Groove (Max. Groove Depth 16mm)
		

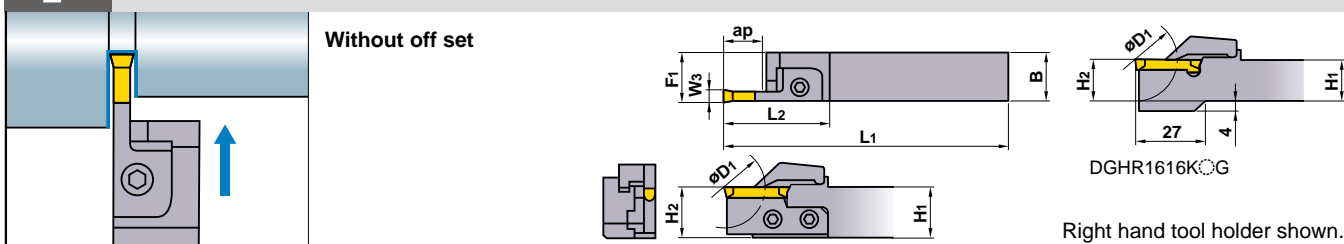
# EXTERNAL GROOVING

## DG HOLDER

- Clamp-on type.
- Groove width 2–8mm.

1

### External cutting off, Grooving standard holder



Pack			Component			
Pack Order Number *1	Stock		Holder	Locator	Clamp Bridge	
	R	L				
Without Off Set	A1207R/L	●	●	DGHR/L1616K2G	—	Set on the Holder
	A1307R/L	●	●	DGHR/L1616K3G	—	Set on the Holder
	A2207R/L	●	●	DGHR/L2020K	EA2R/L	DGK2R/L
	A2307R/L	●	●	DGHR/L2020K	EA3R/L	DGK3R/L
	A3207R/L	●	●	DGHR/L2525M	EB2R/L	DGK2R/L
	A3307R/L	●	●	DGHR/L2525M	EB3R/L	DGK3R/L
	A3407R/L	●	●	DGHR/L2525M	EB4R/L	DGK4R/L
	*3 A3507R/L	●	●	DGHR/L2525M	EB5R/L	DGK5R/L
	A3607R/L	●	●	DGHR/L2525M	EB6R/L	DGK6R/L
	A3707R/L	●	●	DGHR/L2525M	EB7R/L	DGK7R/L
A3807R/L	●	●	DGHR/L2525M	EB8R/L	DGK8R/L	
With Off Set	C3207R/L	●	●	DGHR/L2525MF	EB2R/L	DGK2R/L
	C3307R/L	●	●	DGHR/L2525MF	EB3R/L	DGK3R/L
	C3407R/L	●	●	DGHR/L2525MF	EB4R/L	DGK4R/L
	*3 C3507R/L	●	●	DGHR/L2525MF	EB5R/L	DGK5R/L
	C3607R/L	●	●	DGHR/L2525MF	EB6R/L	DGK6R/L
	C3707R/L	●	●	DGHR/L2525MF	EB7R/L	DGK7R/L
	C3807R/L	●	●	DGHR/L2525MF	EB8R/L	DGK8R/L






\*1 The order pack number includes a holder, locators and clamp screws. (Refer to the list below.) To order the parts separately, please refer to their description.

\*2 The maximum depth of groove is shown in the diagram on the next page.

\*3 Compatible with straight holder for external cutting off and copying.

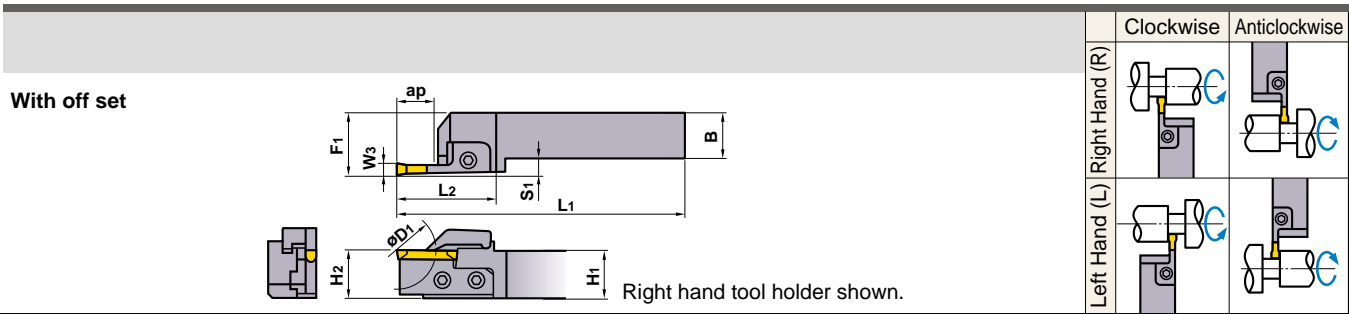
(Note) Please set right hand parts for right hand holders and left hand parts for left hand holders.

## SPARE PARTS

Tool Holder Number						
	Clamp Bridge	Locator Screw	Clamp Screw	Spring	Wrench	
Without Off Set	DGHR/L1616K2G	DGK2R/L	—	DGS51	MES2	HKY40R
	DGHR/L1616K3G	DGK3R/L				
	DGHR/L2020K	—	HSC04014			HKY30R HKY40R
	DGHR/L2525M	—	HSC05012			
With Off Set	—	HSC05012	DGS51	MES2	HKY40R	

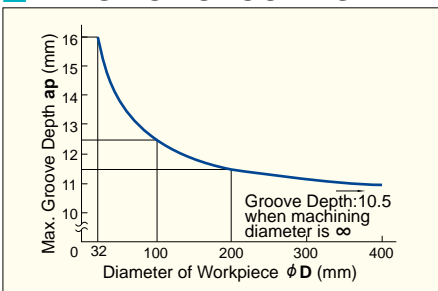
(Note) Please set right hand parts for right hand holders and left hand parts for left hand holders.

DG HOLDER EXTERNAL CUTTING OFF, GROOVING STANDARD HOLDER | GROOVING

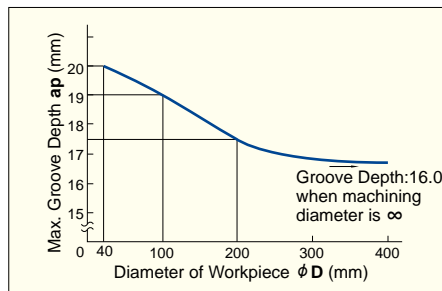


	Groove Width <b>W3</b>	Max. Groove Depth <b>ap *2</b>	Max. Cut Off Diameter <b>D1</b>	Dimensions (mm)							Insert Number	Insert Shape
				H1	B	L1	L2	H2	F1	S1		
	2	10.5	32	16	16	125	40	16	16.2	—	DGM20CE	
	3	10.5	32	16	16	125	40	16	16.2	—	DGM30CE DGJ30CE	
	2	10.5	32	20	20	125	40	20	20.2	—	DGM20CE	
	3	10.5	32	20	20	125	40	20	20.2	—	DGM30CE DGJ30CE	
	2	16	40	25	25	150	40	25	25.2	—	DGM20CE	
	3	16	40	25	25	150	40	25	25.2	—	DGM30CE DGJ30CE	
	4	16	40	25	25	150	40	25	25.2	—	DGJ40CE	
	5	16	40	25	25	150	40	25	25.2	—	DGJ50CE	
	6	16	40	25	25	150	40	25	25.2	—	DGJ60CE	
	7	16	40	25	25	150	40	25	25.2	—	DGJ70CE	
	8	16	40	25	25	150	40	25	25.2	—	DGJ80CE	
	2	16	40	25	25	150	40	25	32	7	DGM20CE	 
	3	16	40	25	25	150	40	25	32	7	DGM30CE DGJ30CE	
	4	16	40	25	25	150	40	25	32	7	DGJ40CE	
	5	16	40	25	25	150	40	25	32	7	DGJ50CE	
	6	16	40	25	25	150	40	25	32	7	DGJ60CE	
	7	16	40	25	25	150	40	25	32	7	DGJ70CE	
	8	16	40	25	25	150	40	25	32	7	DGJ80CE	

### RANGE OF GROOVING



DGHR/L1616K  
DGHR/L2020K



DGHR/L2525M  
DGHR/L2525MF

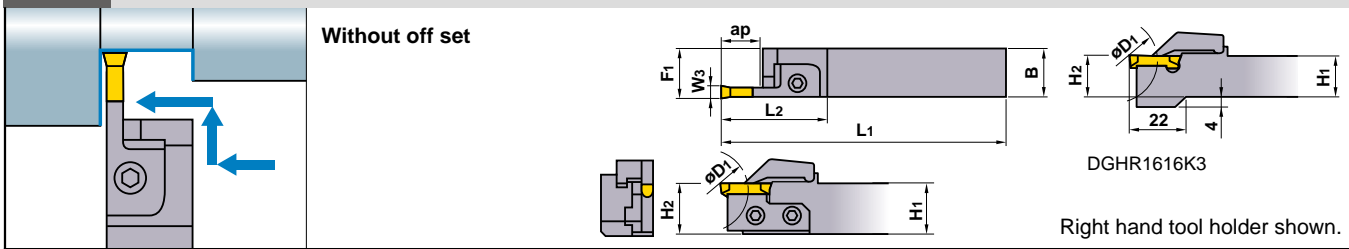
# EXTERNAL GROOVING

## DG HOLDER

- Clamp-on type.
- Groove width 3–6mm.

### 2

### External cutting off, Copying standard holder



Pack			Component		
Pack Order Number *1	Stock		Holder	Locator	Clamp Bridge
	R	L			
Without Off Set	B1307R/L	● ●	DGHR/L1616K3	—	Set on the Holder
	B2307R/L	● ●	DGHR/L2020KS	EA3R/LS	DGK3R/L
	B3307R/L	● ●	DGHR/L2525MS	EB3R/LS	DGK3R/L
	B3407R/L	● ●	DGHR/L2525MS	EB4R/LS	DGK4R/L
	B3408R/L	● ●	DGHR/L2525MS	EB4R/LX	DGK4R/L
	*3 A3507R/L	● ●	DGHR/L2525M	EB5R/L	DGK5R/L
	A3508R/L	● ●	DGHR/L2525M	EB5R/LX	DGK5R/L
A3608R/L	● ●	DGHR/L2525M	EB6R/LX	DGK6R/L	
With Off Set	D1307R/L	● ●	DGHR/L1616KF3	—	Set on the Holder
	D2307R/L	● ●	DGHR/L2020KFS	EA3R/LS	DGK3R/L
	D3307R/L	● ●	DGHR/L2525MFS	EB3R/LS	DGK3R/L
	D3407R/L	● ●	DGHR/L2525MFS	EB4R/LS	DGK4R/L
	D3408R/L	● ●	DGHR/L2525MFS	EB4R/LX	DGK4R/L
	*3 C3507R/L	● ●	DGHR/L2525MF	EB5R/L	DGK5R/L
	C3508R/L	● ●	DGHR/L2525MF	EB5R/LX	DGK5R/L
C3608R/L	● ●	DGHR/L2525MF	EB6R/LX	DGK6R/L	

\*1 The order pack number includes a holder, locators and clamp screws. (Refer to the list below.) To order the parts separately, please refer to their description.

\*2 The maximum depth of groove is shown in the diagram on the next page.

\*3 Compatible with straight holder for external cutting off and copying.

(Note) Please set right hand parts for right hand holders and left hand parts for left hand holders.

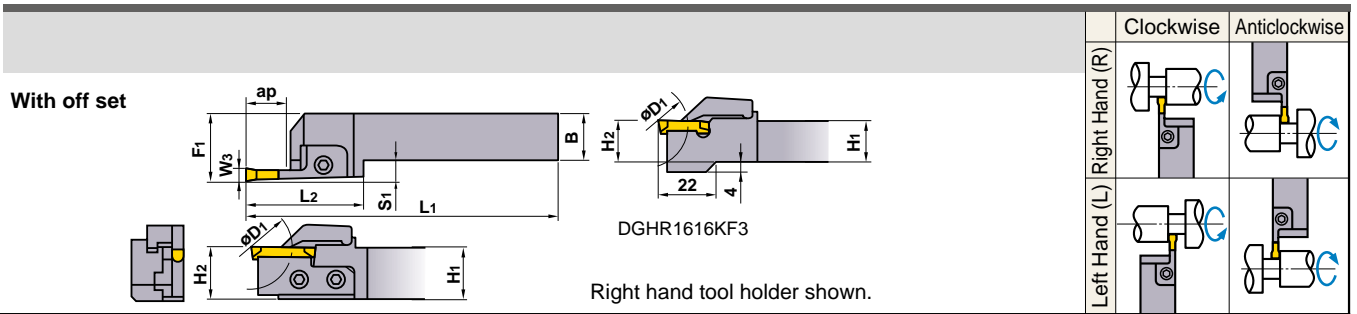
### SPARE PARTS

Tool Holder Number						
	Clamp Bridge	Locator Screw	Clamp Screw	Spring	Wrench	
Without Off Set	DGHR/L1616K3	DGK3R/L	—	DGS51	MES2	HKY40R
	DGHR/L2020KS	—	HSC04014			HKY30R HKY40R
	DGHR/L2525MS	—	HSC05012			HKY40R
	DGHR/L2525M		—			—
With Off Set	DGHR/L1616KF3	DGK3R/L	—	DGS51	MES2	HKY40R
	DGHR/L2020KFS	—	HSC04014			HKY30R HKY40R
	DGHR/L2525MFS	—	HSC05012			HKY40R
	DGHR/L2525MF		—			—

(Note) Please set right hand parts for right hand holders and left hand parts for left hand holders.

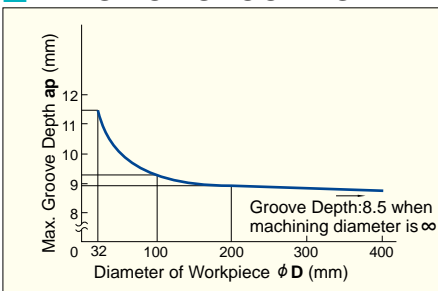
DG HOLDER EXTERNAL CUTTING OFF, COPYING STANDARD HOLDER | GROOVING

● : Inventory maintained.

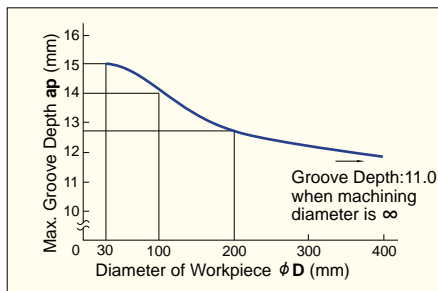


Groove Width <b>W3</b>	Max. Groove Depth <b>ap *2</b>	Max. Cut Off Diameter <b>D1</b>	Dimensions (mm)								Insert Number	Insert Shape
			<b>H1</b>	<b>B</b>	<b>L1</b>	<b>L2</b>	<b>H2</b>	<b>F1</b>	<b>S1</b>			
3	8.5	23	16	16	125	38	16	16.2	—	DGM30CT	DGM...CT	
3	8.5	23	20	20	125	38	20	20.2	—	DGM30CT		
3	11	30	25	25	150	38	25	25.2	—	DGM30CT	DGM...CTB	
4	11	30	25	25	150	38	25	25.2	—	DGM40CT		
4	11	30	25	25	150	38	25	25.2	—	DGM40CTB	DGJ...CT1	
5	16	40	25	25	150	40	25	25.2	—	DGM50CT DGJ50CT1 DGM50CTB DGM50CTD DGM50CTR/L04		
5	16	40	25	25	150	40	25	25.2	—	DGM50CTB	DGM...CTD	
6	16	40	25	25	150	40	25	25.2	—	DGM60CTB		
3	8.5	23	16	16	125	38	16	20	4	DGM30CT	DGM...CTRL	
3	8.5	23	20	20	125	38	20	25	4	DGM30CT		
3	11	30	25	25	150	38	25	32	7	DGM30CT	DGM...CTRL	
4	11	30	25	25	150	38	25	32	7	DGM40CT		
4	11	30	25	25	150	38	25	32	7	DGM40CTB	DGM...CTRL	
5	16	40	25	25	150	40	25	32	7	DGM50CT DGJ50CT1 DGM50CTB DGM50CTD DGM50CTR/L04		
5	16	40	25	25	150	40	25	32	7	DGM50CTB		
6	16	40	25	25	150	40	25	32	7	DGM60CTB		

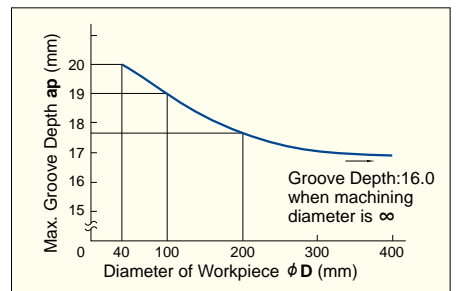
### RANGE OF GROOVING



DGHR/L1616K3  
DGHR/L1616KF3  
DGHR/L2020KS  
DGHR/L2020KFS



DGHR/L2525MS  
DGHR/L2525MFS



DGHR/L2525M  
DGHR/L2525MF

IDENTIFICATION  
A276

CUTTING CONDITIONS  
A299

SPARE PARTS  
F001

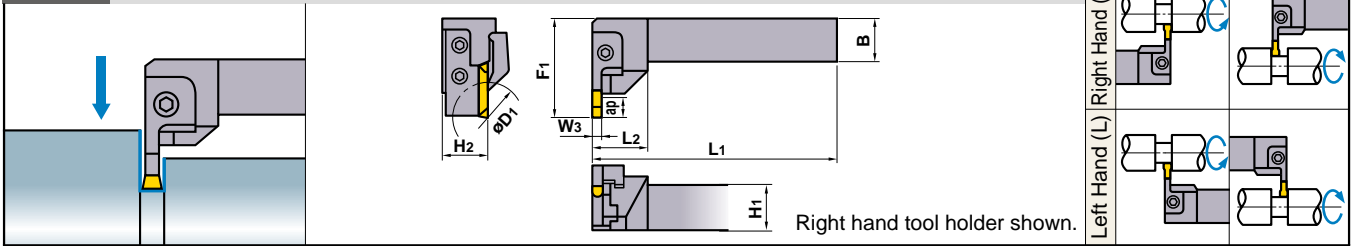
TECHNICAL DATA  
G001

# EXTERNAL GROOVING

## DG HOLDER

- Clamp-on type.
- Groove width 2–8mm.

### 3 External cutting off, Grooving L type holder



Pack		Component			Groove Width W3	Max. Groove Depth ap*2	Max. Cut Off Diameter D1	Dimensions (mm)					Insert Number	Insert Shape	
*1 Pack Order Number	Stock R L	Holder	Locator	Clamp Bridge				H1	B	L1	L2	H2			F1
E2207R/L	● ●	DGHR/L2020KL	EA2L/R	DGK2L/R	2	10.5	32	20	20	125	25	20	45	DGM20CE	DGM...CE
E2307R/L	● ●	DGHR/L2020KL	EA3L/R	DGK3L/R	3	10.5	32	20	20	125	25	20	45	DGM30CE DGJ30CE	
E3207R/L	● ●	DGHR/L2525ML	EB2L/R	DGK2L/R	2	16	40	25	25	150	25	25	45	DGM20CE	DGJ...CE
E3307R/L	● ●	DGHR/L2525ML	EB3L/R	DGK3L/R	3	16	40	25	25	150	25	25	45	DGM30CE DGJ30CE	
E3407R/L	● ●	DGHR/L2525ML	EB4L/R	DGK4L/R	4	16	40	25	25	150	25	25	45	DGJ40CE	DGJ...CE
*3 E3507R/L	● ●	DGHR/L2525ML	EB5L/R	DGK5L/R	5	16	40	25	25	150	25	25	45	DGJ50CE	
E3607R/L	● ●	DGHR/L2525ML	EB6L/R	DGK6L/R	6	16	40	25	25	150	25	25	45	DGJ60CE	
E3707R/L	● ●	DGHR/L2525ML	EB7L/R	DGK7L/R	7	16	40	25	25	150	25	25	45	DGJ70CE	
E3807R/L	● ●	DGHR/L2525ML	EB8L/R	DGK8L/R	8	16	40	25	25	150	25	25	45	DGJ80CE	





\*1 The order pack number includes a holder, locators and clamp screws. (Refer to the list below.) To order the parts separately, please refer to their description.

\*2 The maximum depth of groove as shown in the diagram below.

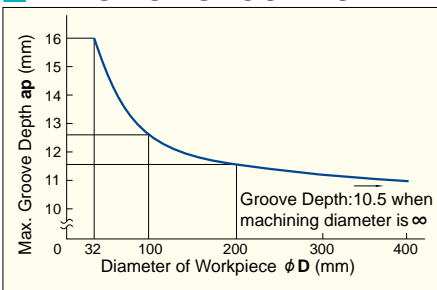
\*3 Compatible with straight holder for external cutting off and copying.

(Note) Please set left hand parts for right hand holders and right hand parts for left hand holders.

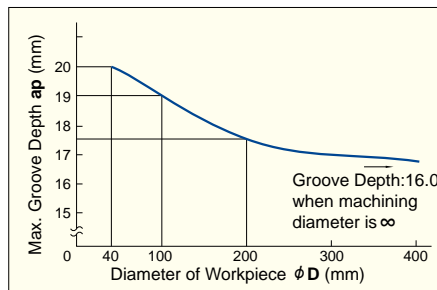
### SPARE PARTS

Tool Holder Number				
	Locator Screw	Clamp Screw	Spring	Wrench
DGHR/L2020KL	HSC04014	DGS51	MES2	HKY30R HKY40R
DGHR/L2525ML	HSC05012			HKY40R

### RANGE OF GROOVING



DGHR/L2020KL



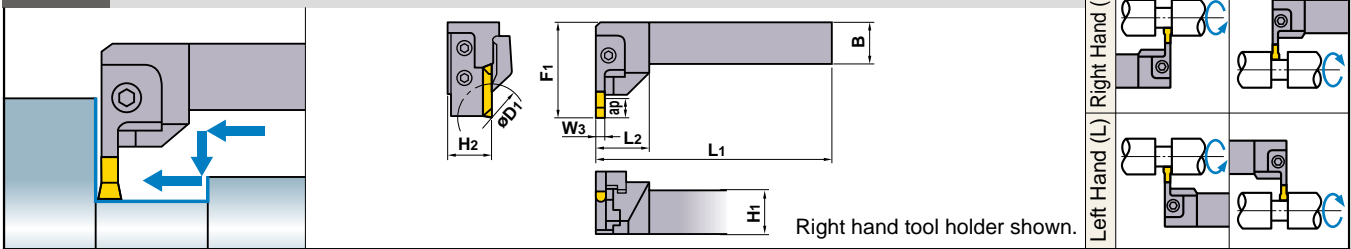
DGHR/L2525ML

DG HOLDER EXTERNAL CUTTING OFF, GROOVING L TYPE HOLDER

# DG HOLDER

- Clamp-on type.
- Groove width 2–8mm.

## 4 External cutting off, Copying L type holder



Pack	Component													Insert Number	Insert Shape	
	*1 Pack Order Number	Stock		Holder	Locator	Clamp Bridge	Groove Width	Max. Groove Depth	Max. Cut Off Diameter	Dimensions (mm)						
	R	L				W3	ap*2	D1	H1	B	L1	L2	H2	F1		
F2307R/L	●	●	DGHR/L2020KLS	EA3L/RS	DGK3L/R	3	8.5	23	20	20	125	25	20	40	DGM30CT	DGM...CT
F3307R/L	●	●	DGHR/L2525MLS	EB3L/RS	DGK3L/R	3	11	30	25	25	150	25	25	40	DGM30CT	DGM...CTB
F3407R/L	●	●	DGHR/L2525MLS	EB4L/RS	DGK4L/R	4	11	30	25	25	150	25	25	40	DGM40CT	DGM...CTB
F3408R/L	●	●	DGHR/L2525MLS	EB4L/RX	DGK4L/R	4	11	30	25	25	150	25	25	40	DGM40CTB	DGJ...CT1
*3 E3507R/L	●	●	DGHR/L2525ML	EB5L/R	DGK5L/R	5	16	40	25	25	150	25	25	45	DGM50CT	DGM...CTD
E3508R/L	●	●	DGHR/L2525ML	EB5L/RX	DGK5L/R	5	16	40	25	25	150	25	25	45	DGM50CTB	DGM...CTD
E3608R/L	●	●	DGHR/L2525ML	EB6L/RX	DGK6L/R	6	16	40	25	25	150	25	25	45	DGM50CTR/L04	DGM...CTR/L
															DGM60CTB	DGM...CTR/L

\*1 The order pack number includes a holder, locators and clamp screws. (Refer to the list below.) To order the parts separately, please refer to their description.

\*2 The maximum depth of groove as shown in the diagram below.

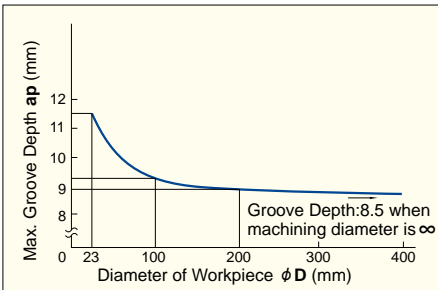
\*3 Compatible with L type holder for external cutting off and copying.

(Note) Please set left hand parts for right hand holders and right hand parts for left hand holders.

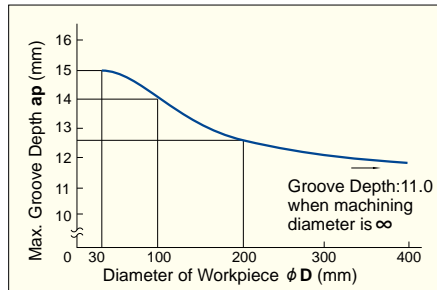
### SPARE PARTS

Tool Holder Number				
	Locator Screw	Clamp Screw	Spring	Wrench
DGHR/L2020KLS	HSC04014	DGS51	MES2	HKY30R HKY40R
DGHR/L2525MLS	HSC05012			HKY40R
DGHR/L2525ML				

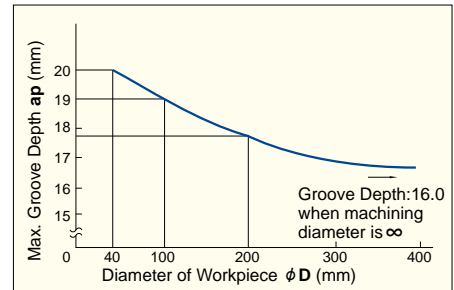
### RANGE OF GROOVING



DGHR/L2020KLS



DGHR/L2525MLS



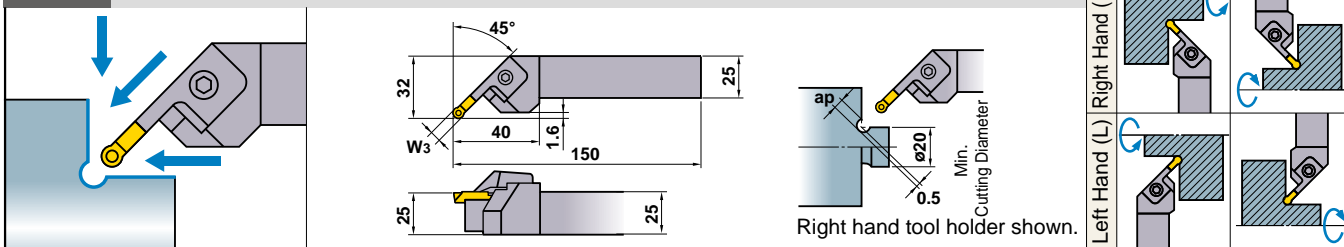
DGHR/L2525ML

# EXTERNAL GROOVING

## DG HOLDER

- Clamp-on type.
- Groove width 4–6mm.

### 5 External recessing, Copying holder



Pack		Component			Groove Width $W_3$	Max. Depth of Recess $ap$	Insert Number	Insert Shape
*1 Pack Order Number	Stock R L	Holder	Locator	Clamp Bridge				
G3408R/L	● ●	DGHR/L2525MCS	EB4L/RX	DGK4L/R	4	2.5	DGM40CTB	
G3508R/L	● ●	DGHR/L2525MC	EB5L/RX	DGK5L/R	5	3.0	DGM50CTB	
G3608R/L	● ●	DGHR/L2525MC	EB6L/RX	DGK6L/R	6	3.5	DGM60CTB	

\*1 The order pack number includes a holder, locators and clamp screws. (Refer to the list below.) To order the parts separately, please refer to their description.

(Note) Please set left hand parts for right hand holders and right hand parts for left hand holders.

### SPARE PARTS

Tool Holder Number				
	Locator Screw	Clamp Screw	Spring	Wrench
DGHR/L2525MCS	HSC05010	DGS51	MES2	HKY40R
DGHR/L2525MC	HSC05012			

DG HOLDER EXTERNAL RECESSING, COPYING HOLDER

## TRaverse MACHINING

Cutting Mode		Left-to-Right			Right-to-Left		
		Max. Depth of Cut $d$ (mm)	Max. Feed $f$ (mm/rev)	Depth of Cut x Feed $d \times f$ (mm <sup>2</sup> )	Max. Depth of Cut $d$ (mm)	Max. Feed $f$ (mm/rev)	Depth of Cut x Feed $d \times f$ (mm <sup>2</sup> )
Insert Number DGM...CT DGM...CTD DM...CTF	Insert Width (mm)						
	3	2.0 (≤Groove Width 65%)	0.20 (≤Groove Width 6.5%)	≤ 0.20	2.0 (≤Groove Width 65%)	0.15 (≤Groove Width 5%)	≤ 0.16
	4	3.0 (≤Groove Width 75%)	0.26 (≤Groove Width 6.5%)	≤ 0.39	2.6 (≤Groove Width 65%)	0.20 (≤Groove Width 5%)	≤ 0.26
	5	4.0 (≤Groove Width 80%)	0.33 (≤Groove Width 6.5%)	≤ 0.65	3.0 (≤Groove Width 60%)	0.25 (≤Groove Width 5%)	≤ 0.38
	6	5.0 (≤Groove Width 85%)	0.39 (≤Groove Width 6.5%)	≤ 0.98	3.3 (≤Groove Width 55%)	0.30 (≤Groove Width 5%)	≤ 0.50
Range of Cutting		Left-to-Right			Right-to-Left		

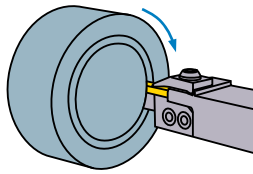
(Note) Above conditions are used for cutting DIN Ck45 at  $v_c=120\text{m/min}$ . Wet cutting is recommended.

# FACE GROOVING

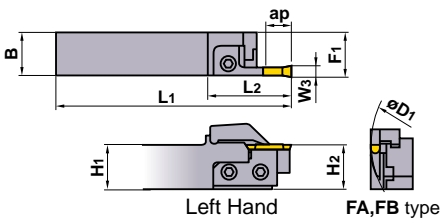
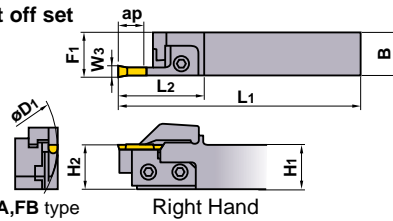
## DG HOLDER

- Clamp-on type.
- Groove width 3–8mm.

### 6 Face grooving standard type holder



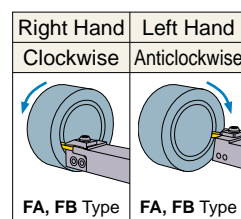
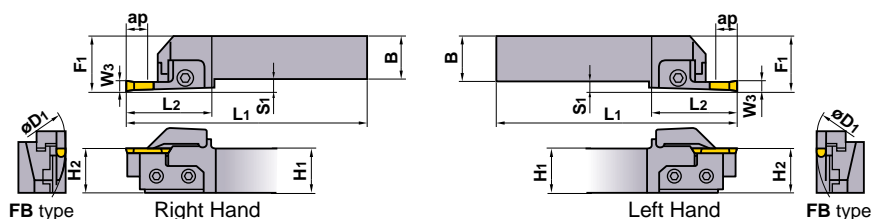
Without off set



Pack			Component			Range of Cutting Diameter $\phi D1 \times 3$	Groove Width W3	Max. Groove Depth ap	Dimensions (mm)								
*1 Pack Order Number	Stock R L		Holder	Locator	Clamp Bridge				H1	B	L1	L2	H2	F1	S1		
FA type	H2300R/L	●	●	DGHR/L2020K	FA3R/L0	DGK5R/L	20 – 50	3	6	20	20	125	40	20	19.2	—	
	H2302R/L	●	●	DGHR/L2020K	FA3R/L2	DGK5R/L	40 – 100	3	6	20	20	125	40	20	19.2	—	
	H2304R/L	●	●	DGHR/L2020K	FA3R/L4	DGK5R/L	100 – 250	3	6	20	20	125	40	20	19.2	—	
	H2400R/L	●	●	DGHR/L2020K	FA4R/L0	DGK5R/L	20 – 50	4	6	20	20	125	40	20	19.7	—	
	H2402R/L	●	●	DGHR/L2020K	FA4R/L2	DGK5R/L	40 – 100	4	6	20	20	125	40	20	19.7	—	
	H2404R/L	●	●	DGHR/L2020K	FA4R/L4	DGK5R/L	100 – 250	4	6	20	20	125	40	20	19.7	—	
Without Off Set	FB type	H3300R/L	●	●	DGHR/L2525M	FB3R/L0	DGK5R/L	20 – 50	3	6	25	25	150	40	25	24.2	—
		H3302R/L	●	●	DGHR/L2525M	FB3R/L2	DGK5R/L	40 – 100	3	6	25	25	150	40	25	24.2	—
		H3304R/L	●	●	DGHR/L2525M	FB3R/L4	DGK5R/L	100 – 250	3	6	25	25	150	40	25	24.2	—
		H3400R/L	●	●	DGHR/L2525M	FB4R/L0	DGK5R/L	20 – 50	4	6	25	25	150	40	25	24.7	—
		H3402R/L	●	●	DGHR/L2525M	FB4R/L2	DGK5R/L	40 – 100	4	6	25	25	150	40	25	24.7	—
		H3404R/L	●	●	DGHR/L2525M	FB4R/L4	DGK5R/L	100 – 250	4	6	25	25	150	40	25	24.7	—
		*2 H3502R/L	●	●	DGHR/L2525M	FB5R/L2	DGK5R/L	50 – 100	5	10	25	25	150	40	25	25.2	—
		*2 H3504R/L	●	●	DGHR/L2525M	FB5R/L4	DGK5R/L	100 – ∞	5	10	25	25	150	40	25	25.2	—
		*2 H4502R/L	●	●	DGHR/L2525M	FB5R/L2D	DGK5R/L	50 – 100	5	16	25	25	150	40	25	25.2	—
		*2 H4504R/L	●	●	DGHR/L2525M	FB5R/L4D	DGK5R/L	100 – ∞	5	16	25	25	150	40	25	25.2	—
	*2 H3602R/L	●	●	DGHR/L2525M	FB6R/L2	DGK6R/L	50 – 100	6	10	25	25	150	40	25	25.2	—	
	*2 H3604R/L	●	●	DGHR/L2525M	FB6R/L4	DGK6R/L	100 – ∞	6	10	25	25	150	40	25	25.2	—	
	*2 H4602R/L	●	●	DGHR/L2525M	FB6R/L2D	DGK6R/L	50 – 100	6	16	25	25	150	40	25	25.2	—	
	*2 H4604R/L	●	●	DGHR/L2525M	FB6R/L4D	DGK6R/L	100 – ∞	6	16	25	25	150	40	25	25.2	—	
	H3702R/L	●	●	DGHR/L2525M	FB7R/L2	DGK7R/L	50 – 100	7	10	25	25	150	40	25	25.2	—	
	H3704R/L	●	●	DGHR/L2525M	FB7R/L4	DGK7R/L	100 – ∞	7	10	25	25	150	40	25	25.2	—	
	H4702R/L	●	●	DGHR/L2525M	FB7R/L2D	DGK7R/L	50 – 100	7	16	25	25	150	40	25	25.2	—	
	H4704R/L	●	●	DGHR/L2525M	FB7R/L4D	DGK7R/L	100 – ∞	7	16	25	25	150	40	25	25.2	—	
	H3802R/L	●	●	DGHR/L2525M	FB8R/L2	DGK8R/L	50 – 100	8	10	25	25	150	40	25	25.2	—	
	H3804R/L	●	●	DGHR/L2525M	FB8R/L4	DGK8R/L	100 – ∞	8	10	25	25	150	40	25	25.2	—	
H4802R/L	●	●	DGHR/L2525M	FB8R/L2D	DGK8R/L	50 – 100	8	16	25	25	150	40	25	25.2	—		
H4804R/L	●	●	DGHR/L2525M	FB8R/L4D	DGK8R/L	100 – ∞	8	16	25	25	150	40	25	25.2	—		
With Off Set	FB type	M3300R/L	●	●	DGHR/L2525MF	FB3R/L0	DGK5R/L	20 – 50	3	6	25	25	150	40	25	31	6
		M3302R/L	●	●	DGHR/L2525MF	FB3R/L2	DGK5R/L	40 – 100	3	6	25	25	150	40	25	31	6
		M3304R/L	●	●	DGHR/L2525MF	FB3R/L4	DGK5R/L	100 – 250	3	6	25	25	150	40	25	31	6
		M3400R/L	●	●	DGHR/L2525MF	FB4R/L0	DGK5R/L	20 – 50	4	6	25	25	150	40	25	31.5	6.5
		M3402R/L	●	●	DGHR/L2525MF	FB4R/L2	DGK5R/L	40 – 100	4	6	25	25	150	40	25	31.5	6.5
		M3404R/L	●	●	DGHR/L2525MF	FB4R/L4	DGK5R/L	100 – 250	4	6	25	25	150	40	25	31.5	6.5
		*2 M3502R/L	●	●	DGHR/L2525MF	FB5R/L2	DGK5R/L	50 – 100	5	10	25	25	150	40	25	32	7
		*2 M3504R/L	●	●	DGHR/L2525MF	FB5R/L4	DGK5R/L	100 – ∞	5	10	25	25	150	40	25	32	7
		*2 M4502R/L	●	●	DGHR/L2525MF	FB5R/L2D	DGK5R/L	50 – 100	5	16	25	25	150	40	25	32	7
		*2 M4504R/L	●	●	DGHR/L2525MF	FB5R/L4D	DGK5R/L	100 – ∞	5	16	25	25	150	40	25	32	7
		*2 M3602R/L	●	●	DGHR/L2525MF	FB6R/L2	DGK6R/L	50 – 100	6	10	25	25	150	40	25	32	7
		*2 M3604R/L	●	●	DGHR/L2525MF	FB6R/L4	DGK6R/L	100 – ∞	6	10	25	25	150	40	25	32	7
		*2 M4602R/L	●	●	DGHR/L2525MF	FB6R/L2D	DGK6R/L	50 – 100	6	16	25	25	150	40	25	32	7
		*2 M4604R/L	●	●	DGHR/L2525MF	FB6R/L4D	DGK6R/L	100 – ∞	6	16	25	25	150	40	25	32	7
		M3702R/L	●	●	DGHR/L2525MF	FB7R/L2	DGK7R/L	50 – 100	7	10	25	25	150	40	25	32	7
		M3704R/L	●	●	DGHR/L2525MF	FB7R/L4	DGK7R/L	100 – ∞	7	10	25	25	150	40	25	32	7
		M4702R/L	●	●	DGHR/L2525MF	FB7R/L2D	DGK7R/L	50 – 100	7	16	25	25	150	40	25	32	7
		M4704R/L	●	●	DGHR/L2525MF	FB7R/L4D	DGK7R/L	100 – ∞	7	16	25	25	150	40	25	32	7
		M3802R/L	●	●	DGHR/L2525MF	FB8R/L2	DGK8R/L	50 – 100	8	10	25	25	150	40	25	32	7
		M3804R/L	●	●	DGHR/L2525MF	FB8R/L4	DGK8R/L	100 – ∞	8	10	25	25	150	40	25	32	7
M4802R/L	●	●	DGHR/L2525MF	FB8R/L2D	DGK8R/L	50 – 100	8	16	25	25	150	40	25	32	7		
M4804R/L	●	●	DGHR/L2525MF	FB8R/L4D	DGK8R/L	100 – ∞	8	16	25	25	150	40	25	32	7		

(Note) Please set right hand parts for right hand holders and left hand parts for left hand holders.

With off set



Insert Number	Insert Shape
DGJ30CFS DGJ30CF DGJ30CF DGJ40CFS DGJ40CF DGJ40CF	 *4
DGJ30CFS DGJ30CF DGJ30CF DGJ40CFS DGJ40CF DGJ40CF DGJ50CF DGJ50CF DGJ50CF DGJ50CF DGJ60CF DGJ60CF DGJ60CF DGJ60CF DGJ60CF DGJ70CF DGJ70CF DGJ70CF DGJ70CF DGJ80CF DGJ80CF DGJ80CF DGJ80CF	 *4
DGJ30CFS DGJ30CF DGJ30CF DGJ40CFS DGJ40CF DGJ40CF DGJ50CF DGJ50CF DGJ50CF DGJ50CF DGJ60CF DGJ60CF DGJ60CF DGJ60CF DGJ70CF DGJ70CF DGJ70CF DGJ70CF DGJ80CF DGJ80CF DGJ80CF DGJ80CF	 *4

### SPARE PARTS

Tool Holder Number				
	Locator Screw	Clamp Screw	Spring	Wrench
Without Off Set	<b>DGHR/L2020K</b>	HSC04014	DGS51	MES2
	<b>DGHR/L2525M</b>	HSC05012		
With Off Set	<b>DGHR/L2525MF</b>	HSC05012	DGS51	MES2
				HKY40R

### REFERENCE DATA

*1	The order pack number includes a holder, locators and clamp screws. (Refer to the above list.) To order the parts separately, please refer to their description.				
*2	Compatible with standard type holder for face grooving and copying.				
*3	The table above shows maximum and minimum achievable diameters for initial cut when face recessing.				
*4	Operational guidance for facing tool holder. Inserts of *4 are not suited to machine the two forms shown due to collision problems.				
	<table border="1"> <thead> <tr> <th>Internal Obstacle</th> <th>External Obstacle</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> </tbody> </table>	Internal Obstacle	External Obstacle		
Internal Obstacle	External Obstacle				

GROOVING

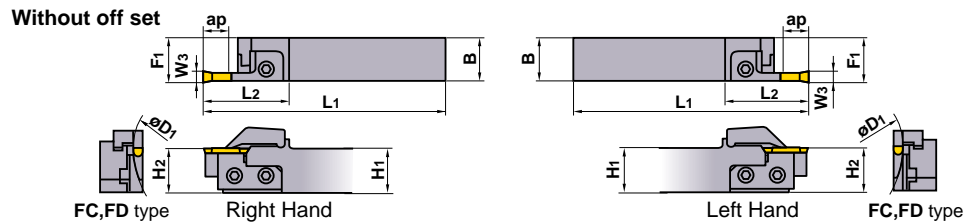
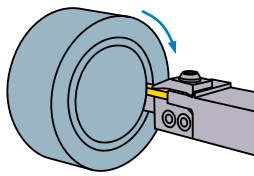
DG HOLDER FACE GROOVING STANDARD TYPE HOLDER

# FACE GROOVING

## DG HOLDER

- Clamp-on type.
- Groove width 3–8mm.

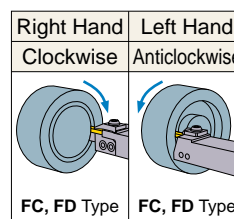
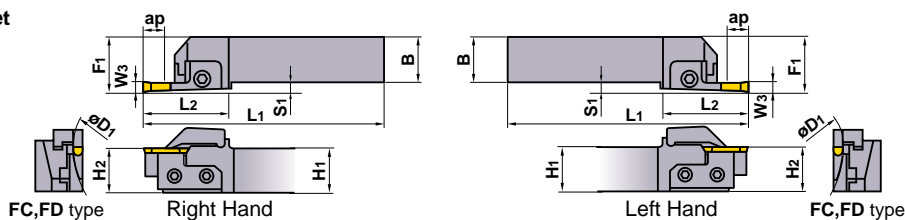
### 6 Face grooving standard type holder



Pack			Component			Range of Cutting Diameter $\phi D1 \star 3$	Groove Width W3	Max. Groove Depth ap	Dimensions (mm)							
*1	Pack Order Number	Stock R L	Holder	Locator	Clamp Bridge				H1	B	L1	L2	H2	F1	S1	
Without Off Set	FC type	J2300R/L	● ●	DGHR/L2020K	FC3R/L0	DGK5R/L	20 – 50	3	6	20	20	125	40	20	19.2	—
		J2302R/L	● ●	DGHR/L2020K	FC3R/L2	DGK5R/L	40 – 100	3	6	20	20	125	40	20	19.2	—
		J2304R/L	● ●	DGHR/L2020K	FC3R/L4	DGK5R/L	100 – 250	3	6	20	20	125	40	20	19.2	—
		J2400R/L	● ●	DGHR/L2020K	FC4R/L0	DGK5R/L	20 – 50	4	6	20	20	125	40	20	19.7	—
		J2402R/L	● ●	DGHR/L2020K	FC4R/L2	DGK5R/L	40 – 100	4	6	20	20	125	40	20	19.7	—
	J2404R/L	● ●	DGHR/L2020K	FC4R/L4	DGK5R/L	100 – 250	4	6	20	20	125	40	20	19.7	—	
	FD type	J3300R/L	● ●	DGHR/L2525M	FD3R/L0	DGK5R/L	20 – 50	3	6	25	25	150	40	25	24.2	—
		J3302R/L	● ●	DGHR/L2525M	FD3R/L2	DGK5R/L	40 – 100	3	6	25	25	150	40	25	24.2	—
		J3304R/L	● ●	DGHR/L2525M	FD3R/L4	DGK5R/L	100 – 250	3	6	25	25	150	40	25	24.2	—
		J3400R/L	● ●	DGHR/L2525M	FD4R/L0	DGK5R/L	20 – 50	4	6	25	25	150	40	25	24.7	—
		J3402R/L	● ●	DGHR/L2525M	FD4R/L2	DGK5R/L	40 – 100	4	6	25	25	150	40	25	24.7	—
		J3404R/L	● ●	DGHR/L2525M	FD4R/L4	DGK5R/L	100 – 250	4	6	25	25	150	40	25	24.7	—
		*2 J3502R/L	● ●	DGHR/L2525M	FD5R/L2	DGK5R/L	50 – 100	5	10	25	25	150	40	25	25.2	—
		*2 J3504R/L	● ●	DGHR/L2525M	FD5R/L4	DGK5R/L	100 – ∞	5	10	25	25	150	40	25	25.2	—
		*2 J4502R/L	● ●	DGHR/L2525M	FD5R/L2D	DGK5R/L	50 – 100	5	16	25	25	150	40	25	25.2	—
		*2 J4504R/L	● ●	DGHR/L2525M	FD5R/L4D	DGK5R/L	100 – ∞	5	16	25	25	150	40	25	25.2	—
		*2 J3602R/L	● ●	DGHR/L2525M	FD6R/L2	DGK6R/L	50 – 100	6	10	25	25	150	40	25	25.2	—
		*2 J3604R/L	● ●	DGHR/L2525M	FD6R/L4	DGK6R/L	100 – ∞	6	10	25	25	150	40	25	25.2	—
		*2 J4602R/L	● ●	DGHR/L2525M	FD6R/L2D	DGK6R/L	50 – 100	6	16	25	25	150	40	25	25.2	—
		*2 J4604R/L	● ●	DGHR/L2525M	FD6R/L4D	DGK6R/L	100 – ∞	6	16	25	25	150	40	25	25.2	—
J3702R/L		● ●	DGHR/L2525M	FD7R/L2	DGK7R/L	50 – 100	7	10	25	25	150	40	25	25.2	—	
J3704R/L	● ●	DGHR/L2525M	FD7R/L4	DGK7R/L	100 – ∞	7	10	25	25	150	40	25	25.2	—		
J4702R/L	● ●	DGHR/L2525M	FD7R/L2D	DGK7R/L	50 – 100	7	16	25	25	150	40	25	25.2	—		
J4704R/L	● ●	DGHR/L2525M	FD7R/L4D	DGK7R/L	100 – ∞	7	16	25	25	150	40	25	25.2	—		
J3802R/L	● ●	DGHR/L2525M	FD8R/L2	DGK8R/L	50 – 100	8	10	25	25	150	40	25	25.2	—		
J3804R/L	● ●	DGHR/L2525M	FD8R/L4	DGK8R/L	100 – ∞	8	10	25	25	150	40	25	25.2	—		
J4802R/L	● ●	DGHR/L2525M	FD8R/L2D	DGK8R/L	50 – 100	8	16	25	25	150	40	25	25.2	—		
J4804R/L	● ●	DGHR/L2525M	FD8R/L4D	DGK8R/L	100 – ∞	8	16	25	25	150	40	25	25.2	—		
With Off Set	FD type	N3300R/L	● ●	DGHR/L2525MF	FD3R/L0	DGK5R/L	20 – 50	3	6	25	25	150	40	25	31	6
		N3302R/L	● ●	DGHR/L2525MF	FD3R/L2	DGK5R/L	40 – 100	3	6	25	25	150	40	25	31	6
		N3304R/L	● ●	DGHR/L2525MF	FD3R/L4	DGK5R/L	100 – 250	3	6	25	25	150	40	25	31	6
		N3400R/L	● ●	DGHR/L2525MF	FD4R/L0	DGK5R/L	20 – 50	4	6	25	25	150	40	25	31.5	6.5
		N3402R/L	● ●	DGHR/L2525MF	FD4R/L2	DGK5R/L	40 – 100	4	6	25	25	150	40	25	31.5	6.5
		N3404R/L	● ●	DGHR/L2525MF	FD4R/L4	DGK5R/L	100 – 250	4	6	25	25	150	40	25	31.5	6.5
		*2 N3502R/L	● ●	DGHR/L2525MF	FD5R/L2	DGK5R/L	50 – 100	5	10	25	25	150	40	25	32	7
		*2 N3504R/L	● ●	DGHR/L2525MF	FD5R/L4	DGK5R/L	100 – ∞	5	10	25	25	150	40	25	32	7
		*2 N4502R/L	● ●	DGHR/L2525MF	FD5R/L2D	DGK5R/L	50 – 100	5	16	25	25	150	40	25	32	7
		*2 N4504R/L	● ●	DGHR/L2525MF	FD5R/L4D	DGK5R/L	100 – ∞	5	16	25	25	150	40	25	32	7
		*2 N3602R/L	● ●	DGHR/L2525MF	FD6R/L2	DGK6R/L	50 – 100	6	10	25	25	150	40	25	32	7
		*2 N3604R/L	● ●	DGHR/L2525MF	FD6R/L4	DGK6R/L	100 – ∞	6	10	25	25	150	40	25	32	7
		*2 N4602R/L	● ●	DGHR/L2525MF	FD6R/L2D	DGK6R/L	50 – 100	6	16	25	25	150	40	25	32	7
		*2 N4604R/L	● ●	DGHR/L2525MF	FD6R/L4D	DGK6R/L	100 – ∞	6	16	25	25	150	40	25	32	7
		N3702R/L	● ●	DGHR/L2525MF	FD7R/L2	DGK7R/L	50 – 100	7	10	25	25	150	40	25	32	7
		N3704R/L	● ●	DGHR/L2525MF	FD7R/L4	DGK7R/L	100 – ∞	7	10	25	25	150	40	25	32	7
		N4702R/L	● ●	DGHR/L2525MF	FD7R/L2D	DGK7R/L	50 – 100	7	16	25	25	150	40	25	32	7
		N4704R/L	● ●	DGHR/L2525MF	FD7R/L4D	DGK7R/L	100 – ∞	7	16	25	25	150	40	25	32	7
N3802R/L	● ●	DGHR/L2525MF	FD8R/L2	DGK8R/L	50 – 100	8	10	25	25	150	40	25	32	7		
N3804R/L	● ●	DGHR/L2525MF	FD8R/L4	DGK8R/L	100 – ∞	8	10	25	25	150	40	25	32	7		
N4802R/L	● ●	DGHR/L2525MF	FD8R/L2D	DGK8R/L	50 – 100	8	16	25	25	150	40	25	32	7		
N4804R/L	● ●	DGHR/L2525MF	FD8R/L4D	DGK8R/L	100 – ∞	8	16	25	25	150	40	25	32	7		

(Note) Please set right hand parts for right hand holders and left hand parts for left hand holders.

With off set



Insert Number	Insert Shape
DGJ30CFS DGJ30CF DGJ30CF DGJ40CFS DGJ40CF DGJ40CF	 *4
DGJ30CFS DGJ30CF DGJ30CF DGJ40CFS DGJ40CF DGJ40CF DGJ50CF DGJ50CF DGJ50CF DGJ50CF DGJ60CF DGJ60CF DGJ60CF DGJ60CF DGJ60CF DGJ70CF DGJ70CF DGJ70CF DGJ70CF DGJ80CF DGJ80CF DGJ80CF DGJ80CF	 
DGJ30CFS DGJ30CF DGJ30CF DGJ40CFS DGJ40CF DGJ40CF DGJ50CF DGJ50CF DGJ50CF DGJ50CF DGJ60CF DGJ60CF DGJ60CF DGJ60CF DGJ70CF DGJ70CF DGJ70CF DGJ70CF DGJ80CF DGJ80CF DGJ80CF DGJ80CF	 *4 

### SPARE PARTS

Tool Holder Number					
	Locator Screw	Clamp Screw	Spring	Wrench	
Without Off Set	<b>DGHR/L2020K</b>	HSC04014	DGS51	MES2	HKY30R HKY40R
	<b>DGHR/L2525M</b>	HSC05012		HKY40R	
With Off Set	<b>DGHR/L2525MF</b>	HSC05012	DGS51	MES2	HKY40R

### REFERENCE DATA

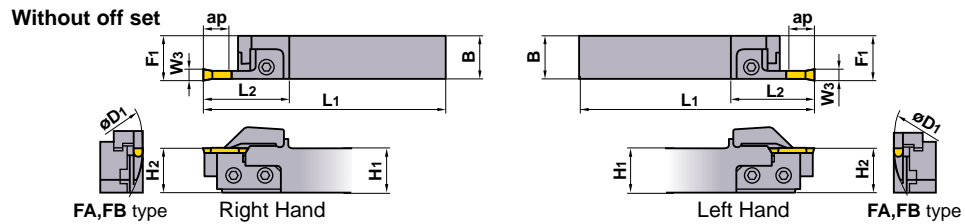
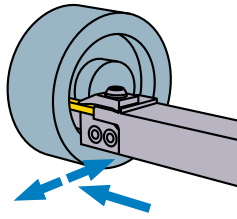
*1	The order pack number includes a holder, locators and clamp screws. (Refer to the above list.) To order the parts separately, please refer to their description.				
*2	Compatible with standard type holder for face grooving and copying.				
*3	The table above shows maximum and minimum achievable diameters for initial cut when face recessing. <div style="display: flex; justify-content: space-around; align-items: center;"> </div>				
*4	Operational guidance for facing tool holder. Inserts of *4 are not suited to machine the two forms shown due to collision problems. <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>Internal Obstacle</th> <th>External Obstacle</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> </tbody> </table>	Internal Obstacle	External Obstacle		
Internal Obstacle	External Obstacle				

# FACE GROOVING

## DG HOLDER

- Clamp-on type.
- Groove width 3–6mm.

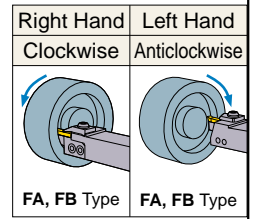
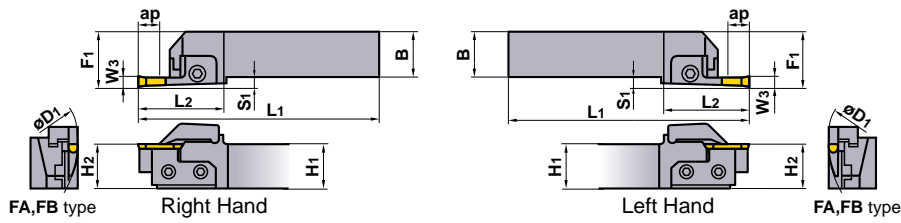
### 7 Face grooving, Copying standard type holder




Pack			Component			Range of Cutting Diameter $\phi D_1 \times 3$	Groove Width $W_3$	Max. Groove Depth $ap$	Dimensions (mm)							
*1	Pack Order Number	Stock R L	Holder	Locator	Clamp Bridge				H1	B	L1	L2	H2	F1	S1	
Without Off Set	FA type	K2302R/L	● ●	DGHR/L2020KS	FA3R/L2S	DGK3R/L	40 – 100	3	6	20	20	125	38	20	20.2	—
		K2304R/L	● ●	DGHR/L2020KS	FA3R/L4S	DGK3R/L	100 – 250	3	6	20	20	125	38	20	20.2	—
		K2402R/L	● ●	DGHR/L2020KS	FA4R/L2S	DGK4R/L	40 – 100	4	6	20	20	125	38	20	20.2	—
		K2404R/L	● ●	DGHR/L2020KS	FA4R/L4S	DGK4R/L	100 – 250	4	6	20	20	125	38	20	20.2	—
	FB type	K3302R/L	● ●	DGHR/L2525MS	FB3R/L2S	DGK3R/L	40 – 100	3	6	25	25	150	38	25	25.2	—
		K3304R/L	● ●	DGHR/L2525MS	FB3R/L4S	DGK3R/L	100 – 250	3	6	25	25	150	38	25	25.2	—
		K3402R/L	● ●	DGHR/L2525MS	FB4R/L2S	DGK4R/L	40 – 100	4	6	25	25	150	38	25	25.2	—
		K3404R/L	● ●	DGHR/L2525MS	FB4R/L4S	DGK4R/L	100 – 250	4	6	25	25	150	38	25	25.2	—
		*2 H3502R/L	● ●	DGHR/L2525M	FB5R/L2	DGK5R/L	50 – 100	5	10	25	25	150	40	25	25.2	—
		*2 H3504R/L	● ●	DGHR/L2525M	FB5R/L4	DGK5R/L	100 – ∞	5	10	25	25	150	40	25	25.2	—
		*2 H4502R/L	● ●	DGHR/L2525M	FB5R/L2D	DGK5R/L	50 – 100	5	16	25	25	150	40	25	25.2	—
		*2 H4504R/L	● ●	DGHR/L2525M	FB5R/L4D	DGK5R/L	100 – ∞	5	16	25	25	150	40	25	25.2	—
		*2 H3602R/L	● ●	DGHR/L2525M	FB6R/L2	DGK6R/L	50 – 100	6	10	25	25	150	40	25	25.2	—
		*2 H3604R/L	● ●	DGHR/L2525M	FB6R/L4	DGK6R/L	100 – ∞	6	10	25	25	150	40	25	25.2	—
		*2 H4602R/L	● ●	DGHR/L2525M	FB6R/L2D	DGK6R/L	50 – 100	6	16	25	25	150	40	25	25.2	—
		*2 H4604R/L	● ●	DGHR/L2525M	FB6R/L4D	DGK6R/L	100 – ∞	6	16	25	25	150	40	25	25.2	—
With Off Set	FA type	P2302R/L	● ●	DGHR/L2020KFS	FA3R/L2S	DGK3R/L	40 – 100	3	6	20	20	125	38	20	25	5
		P2304R/L	● ●	DGHR/L2020KFS	FA3R/L4S	DGK3R/L	100 – 250	3	6	20	20	125	38	20	25	5
		P2402R/L	● ●	DGHR/L2020KFS	FA4R/L2S	DGK4R/L	40 – 100	4	6	20	20	125	38	20	25	5
		P2404R/L	● ●	DGHR/L2020KFS	FA4R/L4S	DGK4R/L	100 – 250	4	6	20	20	125	38	20	25	5
	FB type	P3302R/L	● ●	DGHR/L2525MFS	FB3R/L2S	DGK3R/L	40 – 100	3	6	25	25	150	38	25	32	7
		P3304R/L	● ●	DGHR/L2525MFS	FB3R/L4S	DGK3R/L	100 – 250	3	6	25	25	150	38	25	32	7
		P3402R/L	● ●	DGHR/L2525MFS	FB4R/L2S	DGK4R/L	40 – 100	4	6	25	25	150	38	25	32	7
		P3404R/L	● ●	DGHR/L2525MFS	FB4R/L4S	DGK4R/L	100 – 250	4	6	25	25	150	38	25	32	7
		*2 M3502R/L	● ●	DGHR/L2525MF	FB5R/L2	DGK5R/L	50 – 100	5	10	25	25	150	40	25	32	7
		*2 M3504R/L	● ●	DGHR/L2525MF	FB5R/L4	DGK5R/L	100 – ∞	5	10	25	25	150	40	25	32	7
		*2 M4502R/L	● ●	DGHR/L2525MF	FB5R/L2D	DGK5R/L	50 – 100	5	16	25	25	150	40	25	32	7
		*2 M4504R/L	● ●	DGHR/L2525MF	FB5R/L4D	DGK5R/L	100 – ∞	5	16	25	25	150	40	25	32	7
		*2 M3602R/L	● ●	DGHR/L2525MF	FB6R/L2	DGK6R/L	50 – 100	6	10	25	25	150	40	25	32	7
		*2 M3604R/L	● ●	DGHR/L2525MF	FB6R/L4	DGK6R/L	100 – ∞	6	10	25	25	150	40	25	32	7
		*2 M4602R/L	● ●	DGHR/L2525MF	FB6R/L2D	DGK6R/L	50 – 100	6	16	25	25	150	40	25	32	7
		*2 M4604R/L	● ●	DGHR/L2525MF	FB6R/L4D	DGK6R/L	100 – ∞	6	16	25	25	150	40	25	32	7





(Note) Please set right hand parts for right hand holders and left hand parts for left hand holders.

With off set



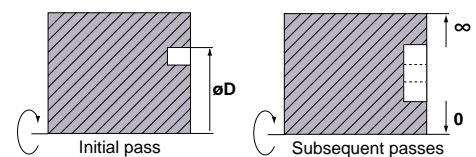
Insert Number	Insert Shape
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DGM30CTF	
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DGM50CTF	
DGM50CTF	
DGM50CTF	
DGM50CTF	
DGM60CTF	
DGM60CTF	
DGM60CTF	
DGM60CTF	

### SPARE PARTS

Tool Holder Number					
	Locator Screw	Clamp Screw	Spring	Wrench	
Without Off Set	<b>DGHR/L2020KS</b>	HSC04014	DGS51	MES2	HKY30R HKY40R
	<b>DGHR/L2525MS</b>	HSC05012			HKY40R
	<b>DGHR/L2525M</b>				
With Off Set	<b>DGHR/L2020KFS</b>	HSC04014	DGS51	MES2	HKY30R HKY40R
	<b>DGHR/L2525MFS</b>	HSC05012			HKY40R
	<b>DGHR/L2525MF</b>				

### REFERENCE DATA

*1	The order pack number includes a holder, locators and clamp screws. (Refer to the above list.) To order the parts separately, please refer to their description.
*2	Compatible with standard type holder for face grooving and copying.
*3	The table above shows maximum and minimum achievable diameters for initial cut when face recessing.

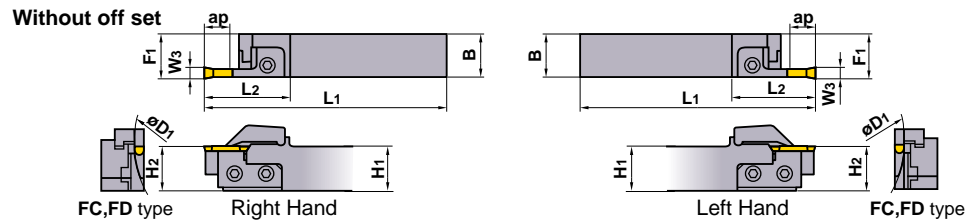
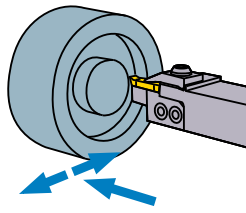


# FACE GROOVING

## DG HOLDER

- Clamp-on type.
- Groove width 3–6mm.

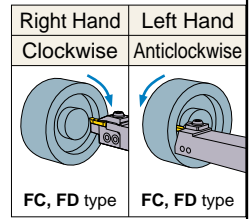
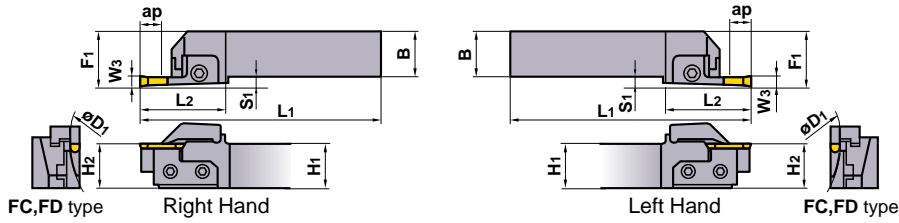
### 7 Face grooving, Copying standard type holder



Pack		Component			Range of Cutting Diameter $\phi D_1$ *3	Groove Width W3	Max. Groove Depth ap	Dimensions (mm)								
*1 Pack Order Number	Stock R L		Holder	Locator				Clamp Bridge	H1	B	L1	L2	H2	F1	S1	
Without Off Set	FC type	● ●	DGHR/L2020KS	FC3R/L2S	DGK3R/L	40 – 100	3	6	20	20	125	38	20	20.2	—	
		● ●	DGHR/L2020KS	FC3R/L4S	DGK3R/L	100 – 250	3	6	20	20	125	38	20	20.2	—	
		● ●	DGHR/L2020KS	FC4R/L2S	DGK4R/L	40 – 100	4	6	20	20	125	38	20	20.2	—	
		● ●	DGHR/L2020KS	FC4R/L4S	DGK4R/L	100 – 250	4	6	20	20	125	38	20	20.2	—	
	FD type	● ●	DGHR/L2525MS	FD3R/L2S	DGK3R/L	40 – 100	3	6	25	25	150	38	25	25.2	—	
		● ●	DGHR/L2525MS	FD3R/L4S	DGK3R/L	100 – 250	3	6	25	25	150	38	25	25.2	—	
		● ●	DGHR/L2525MS	FD4R/L2S	DGK4R/L	40 – 100	4	6	25	25	150	38	25	25.2	—	
		● ●	DGHR/L2525MS	FD4R/L4S	DGK4R/L	100 – 250	4	6	25	25	150	38	25	25.2	—	
		*2	● ●	DGHR/L2525M	FD5R/L2	DGK5R/L	50 – 100	5	10	25	25	150	40	25	25.2	—
		*2	● ●	DGHR/L2525M	FD5R/L4	DGK5R/L	100 – ∞	5	10	25	25	150	40	25	25.2	—
		*2	● ●	DGHR/L2525M	FD5R/L2D	DGK5R/L	50 – 100	5	16	25	25	150	40	25	25.2	—
		*2	● ●	DGHR/L2525M	FD5R/L4D	DGK5R/L	100 – ∞	5	16	25	25	150	40	25	25.2	—
		*2	● ●	DGHR/L2525M	FD6R/L2	DGK6R/L	50 – 100	6	10	25	25	150	40	25	25.2	—
		*2	● ●	DGHR/L2525M	FD6R/L4	DGK6R/L	100 – ∞	6	10	25	25	150	40	25	25.2	—
		*2	● ●	DGHR/L2525M	FD6R/L2D	DGK6R/L	50 – 100	6	16	25	25	150	40	25	25.2	—
		*2	● ●	DGHR/L2525M	FD6R/L4D	DGK6R/L	100 – ∞	6	16	25	25	150	40	25	25.2	—
With Off Set	FC type	● ●	DGHR/L2020KFS	FC3R/L2S	DGK3R/L	40 – 100	3	6	20	20	125	38	20	25	5	
		● ●	DGHR/L2020KFS	FC3R/L4S	DGK3R/L	100 – 250	3	6	20	20	125	38	20	25	5	
		● ●	DGHR/L2020KFS	FC4R/L2S	DGK4R/L	40 – 100	4	6	20	20	125	38	20	25	5	
		● ●	DGHR/L2020KFS	FC4R/L4S	DGK4R/L	100 – 250	4	6	20	20	125	38	20	25	5	
	FD type	● ●	DGHR/L2525MFS	FD3R/L2S	DGK3R/L	40 – 100	3	6	25	25	150	38	25	32	7	
		● ●	DGHR/L2525MFS	FD3R/L4S	DGK3R/L	100 – 250	3	6	25	25	150	38	25	32	7	
		● ●	DGHR/L2525MFS	FD4R/L2S	DGK4R/L	40 – 100	4	6	25	25	150	38	25	32	7	
		● ●	DGHR/L2525MFS	FD4R/L4S	DGK4R/L	100 – 250	4	6	25	25	150	38	25	32	7	
		*2	● ●	DGHR/L2525MF	FD5R/L2	DGK5R/L	50 – 100	5	10	25	25	150	40	25	32	7
		*2	● ●	DGHR/L2525MF	FD5R/L4	DGK5R/L	100 – ∞	5	10	25	25	150	40	25	32	7
		*2	● ●	DGHR/L2525MF	FD5R/L2D	DGK5R/L	50 – 100	5	16	25	25	150	40	25	32	7
		*2	● ●	DGHR/L2525MF	FD5R/L4D	DGK5R/L	100 – ∞	5	16	25	25	150	40	25	32	7
		*2	● ●	DGHR/L2525MF	FD6R/L2	DGK6R/L	50 – 100	6	10	25	25	150	40	25	32	7
		*2	● ●	DGHR/L2525MF	FD6R/L4	DGK6R/L	100 – ∞	6	10	25	25	150	40	25	32	7
		*2	● ●	DGHR/L2525MF	FD6R/L2D	DGK6R/L	50 – 100	6	16	25	25	150	40	25	32	7
		*2	● ●	DGHR/L2525MF	FD6R/L4D	DGK6R/L	100 – ∞	6	16	25	25	150	40	25	32	7

(Note) Please set right hand parts for right hand holders and left hand parts for left hand holders.

With off set



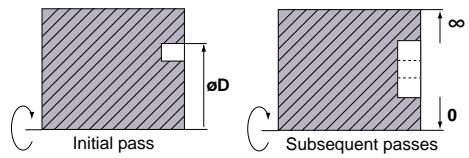
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DGM30CTF	
DGM30CTF	
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DGM50CTF	
DGM50CTF	
DGM50CTF	
DGM50CTF	
DGM60CTF	
DGM60CTF	
DGM60CTF	
DGM60CTF	

### SPARE PARTS

Tool Holder Number					
		Locator Screw	Clamp Screw	Spring	Wrench
Without Off Set	<b>DGHR/L2020KS</b>	HSC04014	DGS51	MES2	HKY30R HKY40R
	<b>DGHR/L2525MS</b>	HSC05012			HKY40R
	<b>DGHR/L2525M</b>				
With Off Set	<b>DGHR/L2020KFS</b>	HSC04014	DGS51	MES2	HKY30R HKY40R
	<b>DGHR/L2525MFS</b>	HSC05012			HKY40R
	<b>DGHR/L2525MF</b>				

### REFERENCE DATA

*1	The order pack number includes a holder, locators and clamp screws. (Refer to the above list.) To order the parts separately, please refer to their description.
*2	Compatible with standard type holder for face grooving.
*3	The table above shows maximum and minimum achievable diameters for initial cut when face recessing.



GROOVING

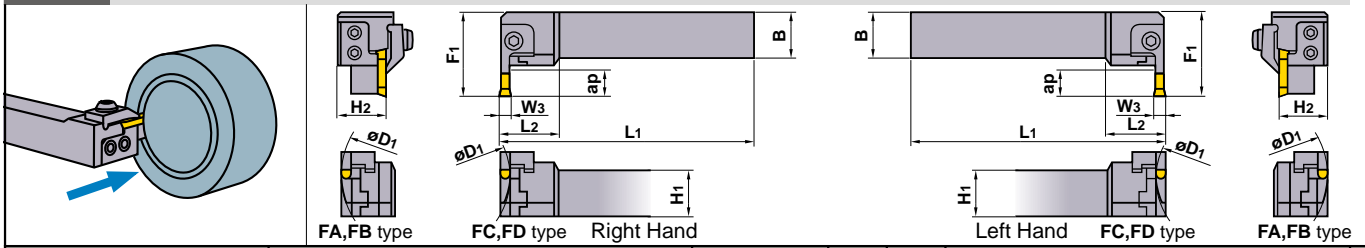
DG HOLDER FACE GROOVING, COPYING STANDARD TYPE HOLDER

# FACE GROOVING

## DG HOLDER

- Clamp-on type.
- Groove width 3–8mm.

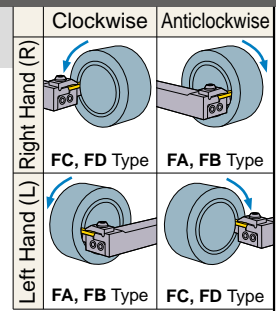
### 8 Face grooving L type holder



Pack	Component		Range of Cutting Diameter $\phi D1$ *3	Groove Width W3	Max. Groove Depth ap	Dimensions (mm)								
	*1 Pack Order Number	Stock R L				Holder	Locator	Clamp Bridge	H1	B	L1	L2	H2	F1
FA type	R2300R/L	● ●	DGHR/L2020KL	FA3L/R0	DGK5L/R	20 – 50	3	6	20	20	124	24	20	45
	R2302R/L	● ●	DGHR/L2020KL	FA3L/R2	DGK5L/R	40 – 100	3	6	20	20	124	24	20	45
	R2304R/L	● ●	DGHR/L2020KL	FA3L/R4	DGK5L/R	100 – 250	3	6	20	20	124	24	20	45
	R2400R/L	● ●	DGHR/L2020KL	FA4L/R0	DGK5L/R	20 – 50	4	6	20	20	124.5	24.5	20	45
	R2402R/L	● ●	DGHR/L2020KL	FA4L/R2	DGK5L/R	40 – 100	4	6	20	20	124.5	24.5	20	45
	R2404R/L	● ●	DGHR/L2020KL	FA4L/R4	DGK5L/R	100 – 250	4	6	20	20	124.5	24.5	20	45
FB type	R3300R/L	● ●	DGHR/L2525ML	FB3L/R0	DGK5L/R	20 – 50	3	6	25	25	149	24	25	45
	R3302R/L	● ●	DGHR/L2525ML	FB3L/R2	DGK5L/R	40 – 100	3	6	25	25	149	24	25	45
	R3304R/L	● ●	DGHR/L2525ML	FB3L/R4	DGK5L/R	100 – 250	3	6	25	25	149	24	25	45
	R3400R/L	● ●	DGHR/L2525ML	FB4L/R0	DGK5L/R	20 – 50	4	6	25	25	149.5	24.5	25	45
	R3402R/L	● ●	DGHR/L2525ML	FB4L/R2	DGK5L/R	40 – 100	4	6	25	25	149.5	24.5	25	45
	R3404R/L	● ●	DGHR/L2525ML	FB4L/R4	DGK5L/R	100 – 250	4	6	25	25	149.5	24.5	25	45
	*2 R3502R/L	● ●	DGHR/L2525ML	FB5L/R2	DGK5L/R	50 – 100	5	10	25	25	150	25	25	45
	*2 R3504R/L	● ●	DGHR/L2525ML	FB5L/R4	DGK5L/R	100 – ∞	5	10	25	25	150	25	25	45
	*2 R4502R/L	● ●	DGHR/L2525ML	FB5L/R2D	DGK5L/R	50 – 100	5	16	25	25	150	25	25	45
	*2 R4504R/L	● ●	DGHR/L2525ML	FB5L/R4D	DGK5L/R	100 – ∞	5	16	25	25	150	25	25	45
	*2 R3602R/L	● ●	DGHR/L2525ML	FB6L/R2	DGK6L/R	50 – 100	6	10	25	25	150	25	25	45
	*2 R3604R/L	● ●	DGHR/L2525ML	FB6L/R4	DGK6L/R	100 – ∞	6	10	25	25	150	25	25	45
	*2 R4602R/L	● ●	DGHR/L2525ML	FB6L/R2D	DGK6L/R	50 – 100	6	16	25	25	150	25	25	45
	*2 R4604R/L	● ●	DGHR/L2525ML	FB6L/R4D	DGK6L/R	100 – ∞	6	16	25	25	150	25	25	45
	R3702R/L	● ●	DGHR/L2525ML	FB7L/R2	DGK7L/R	50 – 100	7	10	25	25	150	25	25	45
	R3704R/L	● ●	DGHR/L2525ML	FB7L/R4	DGK7L/R	100 – ∞	7	10	25	25	150	25	25	45
	R4702R/L	● ●	DGHR/L2525ML	FB7L/R2D	DGK7L/R	50 – 100	7	16	25	25	150	25	25	45
	R4704R/L	● ●	DGHR/L2525ML	FB7L/R4D	DGK7L/R	100 – ∞	7	16	25	25	150	25	25	45
	R3802R/L	● ●	DGHR/L2525ML	FB8L/R2	DGK8L/R	50 – 100	8	10	25	25	150	25	25	45
	R3804R/L	● ●	DGHR/L2525ML	FB8L/R4	DGK8L/R	100 – ∞	8	10	25	25	150	25	25	45
R4802R/L	● ●	DGHR/L2525ML	FB8L/R2D	DGK8L/R	50 – 100	8	16	25	25	150	25	25	45	
R4804R/L	● ●	DGHR/L2525ML	FB8L/R4D	DGK8L/R	100 – ∞	8	16	25	25	150	25	25	45	
FC type	S2300R/L	● ●	DGHR/L2020KL	FC3L/R0	DGK5L/R	20 – 50	3	6	20	20	124	24	20	45
	S2302R/L	● ●	DGHR/L2020KL	FC3L/R2	DGK5L/R	40 – 100	3	6	20	20	124	24	20	45
	S2304R/L	● ●	DGHR/L2020KL	FC3L/R4	DGK5L/R	100 – 250	3	6	20	20	124	24	20	45
	S2400R/L	● ●	DGHR/L2020KL	FC4L/R0	DGK5L/R	20 – 50	4	6	20	20	124.5	24.5	20	45
	S2402R/L	● ●	DGHR/L2020KL	FC4L/R2	DGK5L/R	40 – 100	4	6	20	20	124.5	24.5	20	45
	S2404R/L	● ●	DGHR/L2020KL	FC4L/R4	DGK5L/R	100 – 250	4	6	20	20	124.5	24.5	20	45
FD type	S3300R/L	● ●	DGHR/L2525ML	FD3L/R0	DGK5L/R	20 – 50	3	6	25	25	149	24	25	45
	S3302R/L	● ●	DGHR/L2525ML	FD3L/R2	DGK5L/R	40 – 100	3	6	25	25	149	24	25	45
	S3304R/L	● ●	DGHR/L2525ML	FD3L/R4	DGK5L/R	100 – 250	3	6	25	25	149	24	25	45
	S3400R/L	● ●	DGHR/L2525ML	FD4L/R0	DGK5L/R	20 – 50	4	6	25	25	149.5	24.5	25	45
	S3402R/L	● ●	DGHR/L2525ML	FD4L/R2	DGK5L/R	40 – 100	4	6	25	25	149.5	24.5	25	45
	S3404R/L	● ●	DGHR/L2525ML	FD4L/R4	DGK5L/R	100 – 250	4	6	25	25	149.5	24.5	25	45
	*2 S3502R/L	● ●	DGHR/L2525ML	FD5L/R2	DGK5L/R	50 – 100	5	10	25	25	150	25	25	45
	*2 S3504R/L	● ●	DGHR/L2525ML	FD5L/R4	DGK5L/R	100 – ∞	5	10	25	25	150	25	25	45
	*2 S4502R/L	● ●	DGHR/L2525ML	FD5L/R2D	DGK5L/R	50 – 100	5	16	25	25	150	25	25	45
	*2 S4504R/L	● ●	DGHR/L2525ML	FD5L/R4D	DGK5L/R	100 – ∞	5	16	25	25	150	25	25	45
	*2 S3602R/L	● ●	DGHR/L2525ML	FD6L/R2	DGK6L/R	50 – 100	6	10	25	25	150	25	25	45
	*2 S3604R/L	● ●	DGHR/L2525ML	FD6L/R4	DGK6L/R	100 – ∞	6	10	25	25	150	25	25	45
	*2 S4602R/L	● ●	DGHR/L2525ML	FD6L/R2D	DGK6L/R	50 – 100	6	16	25	25	150	25	25	45
	*2 S4604R/L	● ●	DGHR/L2525ML	FD6L/R4D	DGK6L/R	100 – ∞	6	16	25	25	150	25	25	45
	S3702R/L	● ●	DGHR/L2525ML	FD7L/R2	DGK7L/R	50 – 100	7	10	25	25	150	25	25	45
	S3704R/L	● ●	DGHR/L2525ML	FD7L/R4	DGK7L/R	100 – ∞	7	10	25	25	150	25	25	45
	S4702R/L	● ●	DGHR/L2525ML	FD7L/R2D	DGK7L/R	50 – 100	7	16	25	25	150	25	25	45
	S4704R/L	● ●	DGHR/L2525ML	FD7L/R4D	DGK7L/R	100 – ∞	7	16	25	25	150	25	25	45
	S3802R/L	● ●	DGHR/L2525ML	FD8L/R2	DGK8L/R	50 – 100	8	10	25	25	150	25	25	45
	S3804R/L	● ●	DGHR/L2525ML	FD8L/R4	DGK8L/R	100 – ∞	8	10	25	25	150	25	25	45
S4802R/L	● ●	DGHR/L2525ML	FD8L/R2D	DGK8L/R	50 – 100	8	16	25	25	150	25	25	45	
S4804R/L	● ●	DGHR/L2525ML	FD8L/R4D	DGK8L/R	100 – ∞	8	16	25	25	150	25	25	45	

(Note) Please set left hand parts for right hand holders and right hand parts for left hand holders.

● : Inventory maintained.



Insert Number	Insert Shape
DGJ30CFS DGJ30CF DGJ30CF DGJ40CFS DGJ40CF DGJ40CF	 *4
DGJ30CFS DGJ30CF DGJ30CF DGJ40CFS DGJ40CF DGJ40CF DGJ40CF DGJ50CF DGJ50CF DGJ50CF DGJ50CF DGJ60CF DGJ60CF DGJ60CF DGJ60CF DGJ70CF DGJ70CF DGJ70CF DGJ70CF DGJ80CF DGJ80CF DGJ80CF DGJ80CF	 
DGJ30CFS DGJ30CF DGJ30CF DGJ40CFS DGJ40CF DGJ40CF DGJ30CFS DGJ30CF DGJ30CF DGJ40CFS DGJ40CF DGJ40CF DGJ50CF DGJ50CF DGJ50CF DGJ50CF DGJ60CF DGJ60CF DGJ60CF DGJ60CF DGJ70CF DGJ70CF DGJ70CF DGJ70CF DGJ80CF DGJ80CF DGJ80CF DGJ80CF	 *4  

SPARE PARTS				
Tool Holder Number				
F A <b>DGHR/L2020KL</b>	HSC04014	DGS51	MES2	HKY30R HKY40R
F B <b>DGHR/L2525ML</b>	HSC05012			HKY40R

### REFERENCE DATA

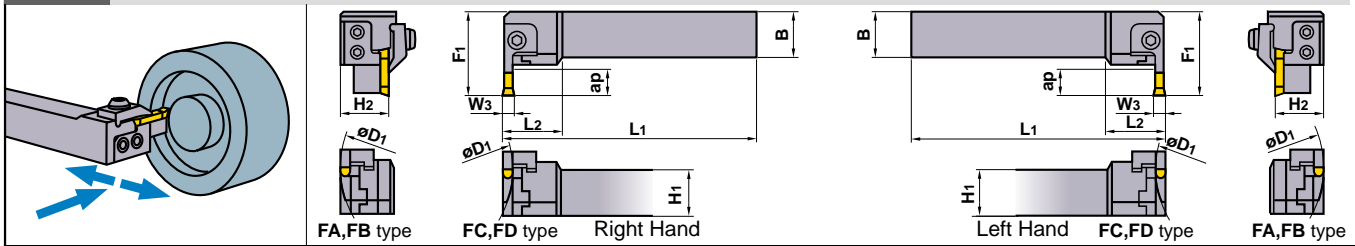
*1	The order pack number includes a holder, locators and clamp screws. (Refer to the above list.) To order the parts separately, please refer to their description.				
*2	Compatible with L type holder for face grooving and copying.				
*3	The table above shows maximum and minimum achievable diameters for initial cut when face recessing.				
*4	Operational guidance for facing tool holder. Inserts of *4 are not suited to machine the two forms shown due to collision problems.				
	<table border="1"> <tr> <th>Internal Obstacle</th> <th>External Obstacle</th> </tr> <tr> <td></td> <td></td> </tr> </table>	Internal Obstacle	External Obstacle		
Internal Obstacle	External Obstacle				

# FACE GROOVING

## DG HOLDER

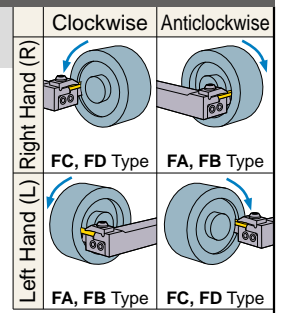
- Clamp-on type.
- Groove width 3–6mm.

### 9 Face grooving, Copying L type holder



	Pack		Component			Range of Cutting Diameter $\phi D1 \times 3$	Groove Width $W3$	Max. Groove Depth $ap$	Dimensions (mm)					
	*1 Pack Order Number	Stock R L	Holder	Locator	Clamp Bridge				H1	B	L1	L2	H2	F1
FA type	T2302R/L	● ●	DGHR/L2020KLS	FA3L/R2S	DGK3L/R	40 – 100	3	6	20	20	125	25	20	40
	T2304R/L	● ●	DGHR/L2020KLS	FA3L/R4S	DGK3L/R	100 – 250	3	6	20	20	125	25	20	40
	T2402R/L	● ●	DGHR/L2020KLS	FA4L/R2S	DGK4L/R	40 – 100	4	6	20	20	125	25	20	40
	T2404R/L	● ●	DGHR/L2020KLS	FA4L/R4S	DGK4L/R	100 – 250	4	6	20	20	125	25	20	40
FB type	T3302R/L	● ●	DGHR/L2525MLS	FB3L/R2S	DGK3L/R	40 – 100	3	6	25	25	150	25	25	40
	T3304R/L	● ●	DGHR/L2525MLS	FB3L/R4S	DGK3L/R	100 – 250	3	6	25	25	150	25	25	40
	T3402R/L	● ●	DGHR/L2525MLS	FB4L/R2S	DGK4L/R	40 – 100	4	6	25	25	150	25	25	40
	T3404R/L	● ●	DGHR/L2525MLS	FB4L/R4S	DGK4L/R	100 – 250	4	6	25	25	150	25	25	40
	*2 R3502R/L	● ●	DGHR/L2525ML	FB5L/R2	DGK5L/R	50 – 100	5	10	25	25	150	25	25	45
	*2 R3504R/L	● ●	DGHR/L2525ML	FB5L/R4	DGK5L/R	100 – ∞	5	10	25	25	150	25	25	45
	*2 R4502R/L	● ●	DGHR/L2525ML	FB5L/R2D	DGK5L/R	50 – 100	5	16	25	25	150	25	25	45
	*2 R4504R/L	● ●	DGHR/L2525ML	FB5L/R4D	DGK5L/R	100 – ∞	5	16	25	25	150	25	25	45
	*2 R3602R/L	● ●	DGHR/L2525ML	FB6L/R2	DGK6L/R	50 – 100	6	10	25	25	150	25	25	45
	*2 R3604R/L	● ●	DGHR/L2525ML	FB6L/R4	DGK6L/R	100 – ∞	6	10	25	25	150	25	25	45
FC type	U2302R/L	● ●	DGHR/L2020KLS	FC3L/R2S	DGK3L/R	40 – 100	3	6	20	20	125	25	20	40
	U2304R/L	● ●	DGHR/L2020KLS	FC3L/R4S	DGK3L/R	100 – 250	3	6	20	20	125	25	20	40
	U2402R/L	● ●	DGHR/L2020KLS	FC4L/R2S	DGK4L/R	40 – 100	4	6	20	20	125	25	20	40
	U2404R/L	● ●	DGHR/L2020KLS	FC4L/R4S	DGK4L/R	100 – 250	4	6	20	20	125	25	20	40
FD type	U3302R/L	● ●	DGHR/L2525MLS	FD3L/R2S	DGK3L/R	40 – 100	3	6	25	25	150	25	25	40
	U3304R/L	● ●	DGHR/L2525MLS	FD3L/R4S	DGK3L/R	100 – 250	3	6	25	25	150	25	25	40
	U3402R/L	● ●	DGHR/L2525MLS	FD4L/R2S	DGK4L/R	40 – 100	4	6	25	25	150	25	25	40
	U3404R/L	● ●	DGHR/L2525MLS	FD4L/R4S	DGK4L/R	100 – 250	4	6	25	25	150	25	25	40
	*2 S3502R/L	● ●	DGHR/L2525ML	FD5L/R2	DGK5L/R	50 – 100	5	10	25	25	150	25	25	45
	*2 S3504R/L	● ●	DGHR/L2525ML	FD5L/R4	DGK5L/R	100 – ∞	5	10	25	25	150	25	25	45
	*2 S4502R/L	● ●	DGHR/L2525ML	FD5L/R2D	DGK5L/R	50 – 100	5	16	25	25	150	25	25	45
	*2 S4504R/L	● ●	DGHR/L2525ML	FD5L/R4D	DGK5L/R	100 – ∞	5	16	25	25	150	25	25	45
	*2 S3602R/L	● ●	DGHR/L2525ML	FD6L/R2	DGK6L/R	50 – 100	6	10	25	25	150	25	25	45
	*2 S3604R/L	● ●	DGHR/L2525ML	FD6L/R4	DGK6L/R	100 – ∞	6	10	25	25	150	25	25	45
*2 S4602R/L	● ●	DGHR/L2525ML	FD6L/R2D	DGK6L/R	50 – 100	6	16	25	25	150	25	25	45	
*2 S4604R/L	● ●	DGHR/L2525ML	FD6L/R4D	DGK6L/R	100 – ∞	6	16	25	25	150	25	25	45	

(Note) Please set left hand parts for right hand holders and right hand parts for left hand holders.



Insert Number	Insert Shape
DGM30CTF	
DGM30CTF	
DGM40CTF	
DGM40CTF	
DGM30CTF	
DGM30CTF	
DGM40CTF	
DGM40CTF	
DGM50CTF	
DGM50CTF	
DGM50CTF	
DGM50CTF	
DGM60CTF	
DGM60CTF	
DGM60CTF	
DGM60CTF	
DGM30CTF	
DGM30CTF	
DGM40CTF	
DGM40CTF	
DGM30CTF	
DGM30CTF	
DGM40CTF	
DGM40CTF	
DGM50CTF	
DGM50CTF	
DGM50CTF	
DGM50CTF	
DGM60CTF	
DGM60CTF	
DGM60CTF	
DGM60CTF	

SPARE PARTS					
Tool Holder Number					
		Locator Screw	Clamp Screw	Spring	Wrench
F A	<b>DGHR/L2020KLS</b>	HSC04014	DGS51	MES2	HKY30R HKY40R
F B	<b>DGHR/L2525MLS</b>	HSC05012			HKY40R

### REFERENCE DATA

*1	The order pack number includes a holder, locators and clamp screws. (Refer to the above list.) To order the parts separately, please refer to their description.
*2	Compatible with L type holder for face grooving and copying.
*3	The table above shows maximum and minimum achievable diameters for initial cut when face recessing.

# DG INSERTS

Application	Geometry	Order Number	Stock							Dimensions (mm)								
			Coated				Carbide	CBN		W3		L1	S1	Re, R	B4	B6		
			UE6020	US735	VP20MF	UP20M	NX2525	UT120T	MB820	MB825	Groove Width						Tolerance	
External Grooving	<b>Cutting Off, Grooving CE Type</b> <b>DGM...CE (M class)</b> 	DGM20CE		☐	●	☐	●	●			2	±0.05	25	3	0.2	7°	2°30'	
		30CE		☐	●	☐	●	●			3	±0.05	25	5	0.2	7°	2°30'	
		<b>DGJ...CE (G class)</b> 	DGJ30CE			●	☐	●	●			3	±0.05	25	5	0.2	2°	2°
			40CE			●	☐	●	●			4	±0.05	25	6	0.2	2°	2°
			50CE			●	☐	●	●			5	±0.05	25	6	0.2	2°	2°
			60CE			●	☐	●	●			6	±0.05	25	6	0.2	2°	2°
	70CE				●	☐	●	●			7	±0.05	25	8	0.2	2°	2°	
	80CE			●	☐	●	●			8	±0.05	25	8	0.2	2°	2°		
	<b>Cutting Off, Copying CT Type</b> <b>DGJ...CT (G class)</b> 	DGJ40CE								★	★	4	±0.05	25	6	0.2	2°	2°
		50CE								★	★	5	±0.05	25	6	0.2	2°	2°
		60CE								★	★	6	±0.05	25	6	0.2	2°	2°
		<b>DGM...CT (M class)</b> 	DGM30CT	●	●	●		●	●			3	±0.05	20	5	0.4	3°	1°30'
40CT			●	●	●		●				4	±0.05	20	5	0.4	5°	2°	
50CT			●	●	●		●				5	±0.05	25	6	0.4	5°	2°	
DGJ50CT1			●	●	●					5	±0.05	25	6	0.2	2°	2°		
<b>Cutting Off, Copying CT Type</b> <b>DGM...CTB (M class)</b> 	DGM40CTB	●	●							4	±0.05	20	5	2	5°	7°		
	50CTB	●	●							5	±0.05	25	6	2.5	6°	10°		
	60CTB	●	●							6	±0.05	25	6	3	9°	10°		
	<b>DGM...CTD (M class)</b> 	DGM50CTD04	●	●							5	±0.05	25	6	0.4	6°	—	
		50CTD08	●	●							5	±0.05	25	6	0.8	6°	—	
	<b>DGM...CTR/L... (M class)</b> <p>Right hand insert shown.</p>	DGM50CTR04	●	●							5	±0.05	25	6	0.4	5°	3°	
50CTL04		●	●							5	±0.05	25	6	0.4	5°	3°		

● : Inventory maintained. ★ : Inventory maintained in Japan.  
 ☐ : Non stock, produced to order only. ▲ : Inventory maintained. To be replaced by new products.

Application	Geometry	Order Number	Stock							Dimensions (mm)					Face Grooving Diameter		
			Coated				Cermet		Carbide	W3		L1	S1	Re		B4	B6
			UE6020	US735	VP20MF	UP20M	NX2525	NX55		UT120T	Groove Width						
Face Grooving	Grooving CF Type <b>DGJ...CFS/CF (G class)</b> 	<b>DGJ30CFS</b>			●		●	●	3	±0.05	25	3	0.2	15°	2°	∅20 – ∅50	
		<b>30CF</b>			●		●	●	3	±0.05	25	5	0.2	10°	2°	∅40 –	
		<b>40CFS</b>			●		●	●	4	±0.05	25	3	0.2	15°	2°	∅20 – ∅50	
		<b>40CF</b>			●		●	●	4	±0.05	25	5	0.2	10°	2°	∅40 –	
	Grooving CF Type <b>DGJ...CF (G class)</b> 	<b>DGJ50CF</b>			●	□	●	●	5	±0.05	25	5	0.2	10°	2°	∅50 –	
		<b>60CF</b>			●	□	●	●	6	±0.05	25	5	0.2	10°	2°	∅50 –	
		<b>70CF</b>			●	□	●	●	7	±0.05	25	6	0.2	10°	2°	∅50 –	
		<b>80CF</b>			●	□	●	●	8	±0.05	25	6	0.2	10°	2°	∅50 –	
	Grooving Copying CTF Type <b>DGM...CTF (M class)</b> 	<b>DGM30CTF</b>	●	●					3	±0.05	20	3	0.4	10°	2°	∅40 –	
		<b>40CTF</b>	●	●					4	±0.05	20	3	0.4	10°	2°	∅50 –	
		<b>50CTF</b>	●	●					5	±0.05	25	5	0.4	9°	2°	∅40 –	
		<b>60CTF</b>	●	●					6	±0.05	25	5	0.4	9°	2°	∅50 –	
Blank Type <b>DG...BE</b> 	* <b>DG35BE</b>						▲	★	3.5	±0.1	25.55	5	0.2	0°	0°	–	
	* <b>45BE</b>						▲	●	4.5	±0.1	25.55	6	0.2	0°	0°	–	
	* <b>55BE</b>						▲	●	5.5	±0.1	25.55	6	0.2	0°	0°	–	
	* <b>65BE</b>						▲	●	6.5	±0.1	25.55	6	0.2	0°	0°	–	
	* <b>75BE</b>						▲	●	7.5	±0.1	25.55	8	0.2	0°	0°	–	
	* <b>85BE</b>						▲	●	8.5	±0.1	25.55	8	0.2	0°	0°	–	

\*Blank inserts to be ground by customers. Please take care with relief angle grinding.

## RECOMMENDED CUTTING CONDITIONS

● For Cutting off, Grooving

Work Material	Hardness	Grade		Cutting Speed (m/min)	Maximum Feed f (mm/rev)			
		Continuous	Interrupted		Groove Width W3 (mm)			
					2	3,4	5,6	7,8
P Steel	≤150HB	NX2525	VP20MF	160 (120–200)	0.1	0.2	0.25	0.3
	150–250HB	UE6020	VP20MF	120 (100–150)	0.1	0.15	0.2	0.25
	≥250HB	UE6020	VP20MF	120 (100–150)	0.08	0.15	0.15	0.2
	≥50HRC	MB820	MB820	100 (80–120)	–	0.06	0.1	–
M Stainless Steel	–	US735	VP20MF	120 (100–140)	0.1	0.15	0.2	0.2
K Cast Iron	–	UE6020	VP20MF	120 (100–140)	0.1	0.2	0.25	0.3

(Note) Wet cutting is recommended, lower the feed rate 15–20% for face turning.

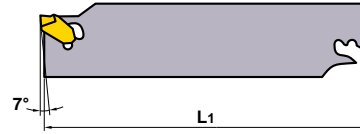
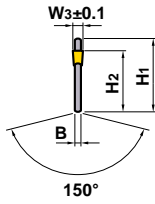
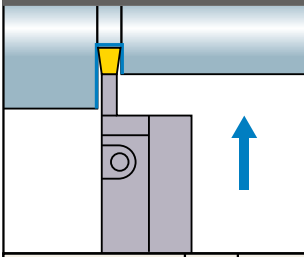
# EXTERNAL GROOVING

## UG HOLDER

- Strengthened insert clamping force.
- Block and blade type and solid type series.
- Groove width 2.2–5.1mm.

### UGHN

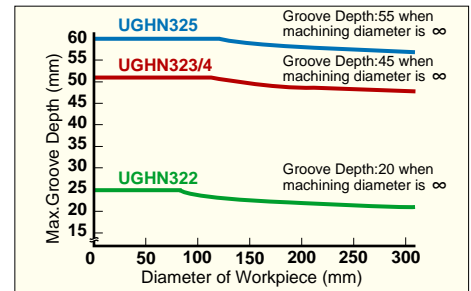
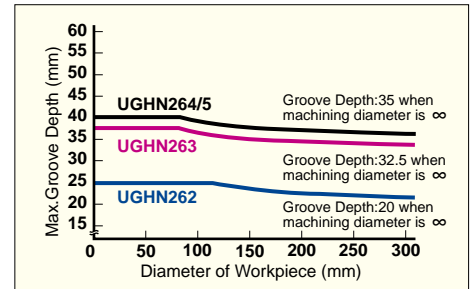
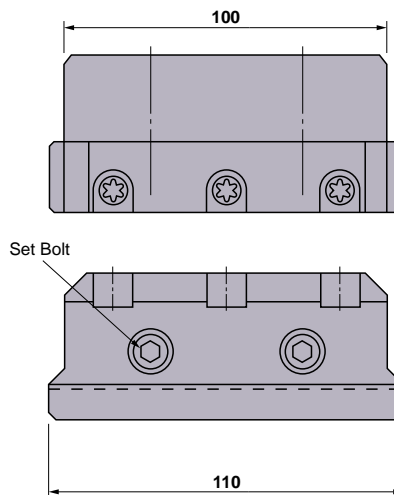
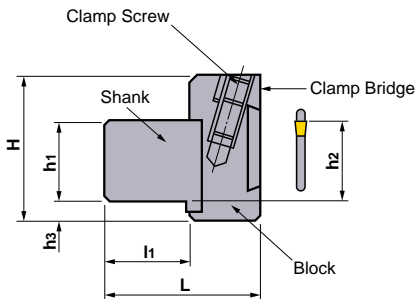
#### External cutting off, Grooving



Order Number	Stock	Insert Number	Cutting Width W3	Max. Cut off Diameter	Max. Groove Depth	Dimensions (mm)				Wrench	Tool Block	
						B	H2	H1	L1			
<b>UGHN262</b>	●	KGT	2⊙	2.2	50	20	1.60	21.4	26	110	UGS1	KGBN26-20 KGBN26-25
<b>263</b>	●		3⊙	3.1	75	32.5	2.35	21.4	26	110	UGS1	
<b>264</b>	●		4⊙	4.1	80	35	3.20	21.4	26	110	UGS1	
<b>265</b>	●		5⊙	5.1	80	35	4.00	21.4	26	110	UGS1	
<b>322</b>	●		2⊙	2.2	50	20	1.60	25.0	32	150	UGS1	KGBN32-20 KGBN32-25
<b>323</b>	●		3⊙	3.1	100	45	2.35	25.0	32	150	UGS1	
<b>324</b>	●		4⊙	4.1	100	45	3.20	25.0	32	150	UGS1	
<b>325</b>	●		5⊙	5.1	120	55	4.00	25.0	32	150	UGS1	

UG HOLDER GROOVING

### TOOL BLOCK

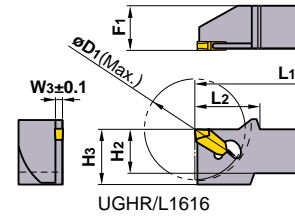
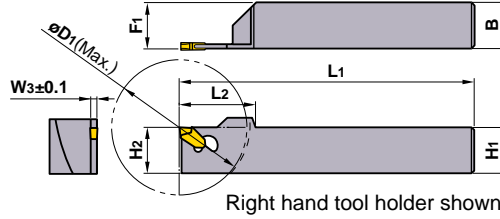
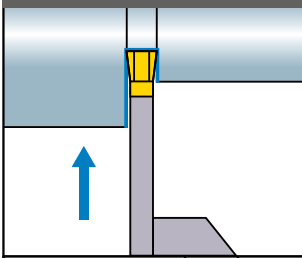


Order Number	Stock	Dimensions (mm)						Spare Parts (Block)				Spare Parts (Shank)		
		h1	h2	h3	H	l1	L	Block	Clamp Bridge	Clamp Screw	Wrench	Shank	Set Bolt	Wrench
<b>KGBN26-20</b>	●	20	20	11	45	20	43	KGBN26	KGC1	LS15T	TKY25R	KGS20	HSC08016	HKY60R
<b>26-25</b>	●	25	25	6	45	25	48	KGBN26	KGC1	LS15T	TKY25R	KGS25	HSC08016	HKY60R
<b>32-20</b>	●	20	20	15.6	52	20	43	KGBN32	KGC1	LS15T	TKY25R	KGS20	HSC08016	HKY60R
<b>32-25</b>	●	25	25	10.6	52	25	48	KGBN32	KGC1	LS15T	TKY25R	KGS25	HSC08016	HKY60R

(Note) ①When ordering a block, clamp bridge and clamp screw are included.  
 ②When ordering a shank, set bolts are included.

● : Inventory maintained. ★ : Inventory maintained in Japan.

## External cutting off, Grooving

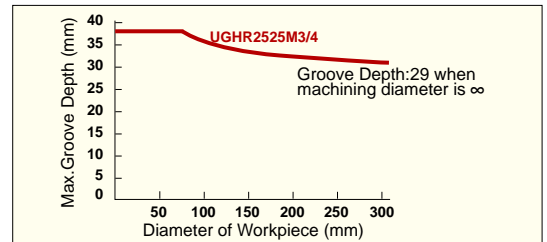
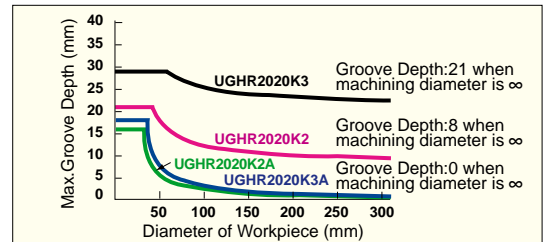
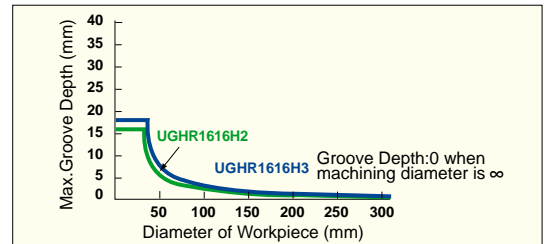


Order Number	Stock		Insert Number	Cutting Width	Max. Cut off Diameter	Max. Groove Depth	Dimensions (mm)							Wrench
	R	L					W3	D1	B	H2	L1	L2	H1	
UGHR/L1616H2	●	●	KGT	2 $\varnothing$	2.2	—	16	16	100	24	16	16.3	20	UGS1
1616H3	●	●		3 $\varnothing$	3.1	—	16	16	100	24	16	16.4	20	UGS1
2020K2A	●	●		2 $\varnothing$	2.2	—	20	20	125	24	20	20.3	—	UGS1
2020K2	●	●		2 $\varnothing$	2.2	8	20	20	125	25	20	20.3	—	UGS1
2020K3A	●	●		3 $\varnothing$	3.1	—	20	20	125	24	20	20.4	—	UGS1
2020K3	●	●		3 $\varnothing$	3.1	21	20	20	125	32	20	20.4	—	UGS1
2525M3	●	●		3 $\varnothing$	3.1	29	25	25	150	42	25	25.4	—	UGS1
2525M4	●	●		4 $\varnothing$	4.1	29	25	25	150	42	25	25.5	—	UGS1

## INSERTS

Order Number	Stock				Dimensions (mm)		Geometry
	Coated	Cermet	Carbide		W3	Re	
	UE6020	US735	NX2525	UTi20T			
<b>KGT2N</b>	●	●	★	★	2.2	0.2	
3N	●	●	★	★	3.1	0.2	
4N	●	●	★	★	4.1	0.2	
5N	●	●	★	★	5.1	0.2	
<b>KGT2R</b>	●	●	★	★	2.2	0.2	
2L	●	●	★	★	2.2	0.2	
3R	●	●	★	★	3.1	0.2	
3L	●	●	★	★	3.1	0.2	
4R	●	●	★	★	4.1	0.2	
4L	●	●	★	★	4.1	0.2	
5R	●	●	★	★	5.1	0.2	Left hand tool holder shown.
5L	●	●	★	★	5.1	0.2	

(Note) Above insert is not compatible with other manufacturer's holders.



## RECOMMENDED CUTTING CONDITIONS

Work Material	Hardness	Grade	Cutting Speed (m/min)	Feed (mm/rev)			
				Groove Width 2.2mm	Groove Width 3.1mm	Groove Width 4.1mm	Groove Width 5.1mm
P Mild Steel	≤180HB	UE6020•NX2525 UTi20T	120 (100—140)	0.08 (0.06—0.1)	0.1 (0.08—0.12)	0.12 (0.1—0.14)	0.12 (0.1—0.14)
	Carbon Steel Alloy Steel	180—280HB	100 ( 80—120)	0.05 (0.04—0.06)	0.08 (0.06—0.1)	0.1 (0.08—0.12)	0.1 (0.08—0.12)
		280—350HB	UTi20T	80 ( 60—100)	0.05 (0.04—0.06)	0.08 (0.06—0.1)	0.1 (0.08—0.12)
M Stainless Steel	≤200HB	US735	80 ( 60—100)	0.05 (0.04—0.06)	0.08 (0.06—0.1)	0.1 (0.08—0.12)	0.1 (0.08—0.12)

(Note) Please the set cutting edge height 0.1—0.2mm higher than centre.

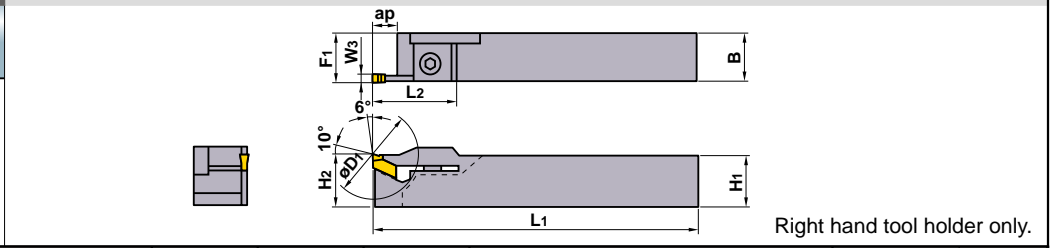
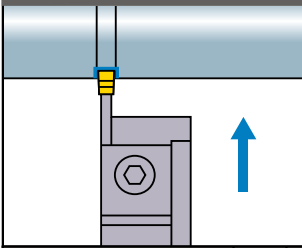
# EXTERNAL GROOVING

## EG HOLDER

- High clamp rigidity due to integrated clamp bridge.
- Max. cut off diameter : 50mm.
- Groove width 3–6mm.
- Max. depth of groove : 20mm.
- Excellent sharpness with positive inserts.

### EGHR

#### External cutting off

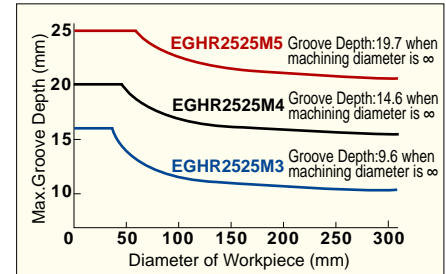
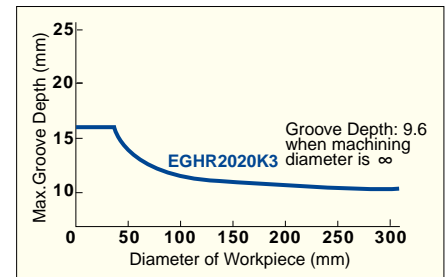


Order Number	Stock	Insert Number	Cutting Width	Max. Cut off Diameter	Max. Groove Depth	Dimensions (mm)						Clamp Screw	Wrench	
						R	W3	D1	ap	H1	B			L1
<b>EGHR2020K3</b>	●	EGT	3	3	32	10	20	20	125	33	20	20.3	EGS06019	HKY30R
<b>2525M3</b>	●		3	3	32	10	25	25	150	33	25	25.3	EGS06019	HKY30R
<b>2525M4</b>	●		4	4	40	15	25	25	150	44	25	25.3	EGS08024	HKY40R
<b>* 2525M5</b>	●		5	5	50	20	25	25	150	48	25	25.3	EGS08024	HKY40R
<b>* 2525M5</b>	●		6	6	50	20	25	25	150	48	25	25.3	EGS08024	HKY40R

\*Compatible with this holder for inserts of 5mm and 6mm width.

### INSERTS

Insert Number	Stock			Dimensions (mm)			Geometry
	Cermet		Carbide	L1	W3	B2	
	NX2525	NX55	UTi20T				
<b>EGT3</b>	●	▲	●	9	3	10°	
<b>4</b>	●	▲	●	9	4	10°	
<b>5</b>	●	▲	●	9	5	10°	
<b>6</b>	□		●	9	6	20°	



### RECOMMENDED CUTTING CONDITIONS ●Cutting Off

Work Material	Hardness	Grade	Cutting Speed (m/min)	Feed (mm/rev)			
				Groove Width 3mm	Groove Width 4mm	Groove Width 5mm	Groove Width 6mm
<b>P</b> Carbon Steel Alloy Steel	180–280HB	<b>NX2525</b> <b>UTi20T</b>	100 (80–120)	0.08 (0.06–0.1)	0.1 (0.08–0.12)	0.1 (0.08–0.12)	0.1 (0.08–0.12)
	280–350HB	<b>UTi20T</b>	80 (60–100)	0.08 (0.06–0.1)	0.1 (0.08–0.12)	0.1 (0.08–0.12)	0.1 (0.08–0.12)
<b>M</b> Stainless Steel	≤200HB	<b>UTi20T</b>	80 (60–100)	0.08 (0.06–0.1)	0.1 (0.08–0.12)	0.1 (0.08–0.12)	0.1 (0.08–0.12)

(Note) Wet cutting is recommended.

### ● Traverse Machining

Cutting Mode	Cutting Conditions	Insert Width				Range of Cutting
		3mm	4mm	5mm	6mm	
These conditions are used for cutting DIN Ck45 (180–280HB) at vc=100m/min. Wet cutting is recommended.	Max. Depth of Cut (mm)	0.5	1.0	1.5	1.5	
	Max. Feed (mm/rev)	0.1	0.15	0.2	0.2	

● : Inventory maintained. ★ : Inventory maintained in Japan.

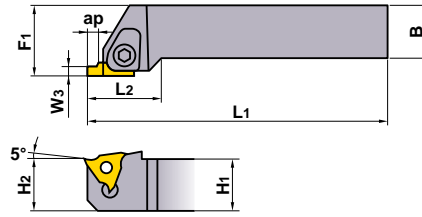
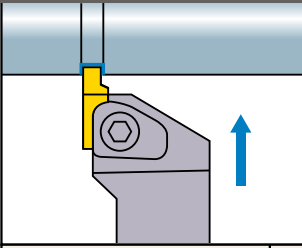
□ : Non stock, produced to order only. ▲ : Inventory maintained. To be replaced by new products.

# MG HOLDER

- Clamp-on type.
- Positive insert suffers from negligible chattering and thus produces good finished surface.
- Groove width 1.5–4.7mm.

## MG1





### External grooving



Right hand tool holder shown.

Order Number	Stock		Insert Number	Cutting Width W <sub>3</sub>	Max. Groove Depth ap	Dimensions (mm)					
	R	L				H <sub>1</sub>	B	L <sub>1</sub>	L <sub>2</sub>	H <sub>2</sub>	F <sub>1</sub>
<b>MG1R/L2020K4315</b>	★	★	MGTR/L 43150   43470	1.5 ≤ W <sub>3</sub> ≤ 2.3	3	20	20	125	30	20	25
<b>2020K4323</b>	★	★		2.3 < W <sub>3</sub> ≤ 3.3	4.5	20	20	125	30	20	25
<b>2020K4333</b>	★	★		3.3 < W <sub>3</sub> ≤ 4.7	4.5	20	20	125	30	20	25
<b>2525M4315</b>	★	★		1.5 ≤ W <sub>3</sub> ≤ 2.3	3	25	25	150	30	25	32
<b>2525M4323</b>	★	★		2.3 < W <sub>3</sub> ≤ 3.3	4.5	25	25	150	30	25	32
<b>2525M4333</b>	★	★		3.3 < W <sub>3</sub> ≤ 4.7	4.5	25	25	150	30	25	32

## SPARE PARTS

Tool Holder Number				
	Clamp Bridge	Clamp Screw	Spring	Wrench
<b>MG1R/L2020K4315</b>   <b>MG1R/L2525M4333</b>	MTK1R/L	HBH06020	MES3	HKY40R

## RECOMMENDED CUTTING CONDITIONS

	Work Material	Hardness	Grade	Cutting Speed (m/min)	Feed (mm/rev)
<b>P</b>	Carbon Steel Alloy Steel	180–280HB	<b>VP20MF</b>	120 (100–140)	0.14 (0.03–0.25)
			<b>NX2525</b>	130 (100–160)	0.12 (0.03–0.2)
<b>M</b>	Stainless Steel	≤200HB	<b>VP20MF</b>	120 (100–140)	0.12 (0.03–0.18)
<b>K</b>	Cast Iron	Tensile Strength ≤ 350N/mm <sup>2</sup>	<b>VP20MF</b>	120 (100–140)	0.12 (0.03–0.18)

(Note) For machining a narrow groove, apply a lower feed within the recommended range.

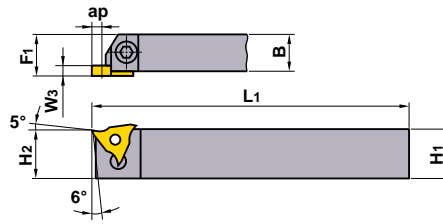
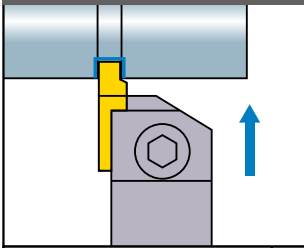
# EXTERNAL GROOVING

## MG HOLDER

- Clamp-on type.
- Positive insert suffers from negligible chattering and thus produces good finished surface.
- Groove width 1.25–6.0mm.

### MGH



### External grooving



Right hand tool holder shown.

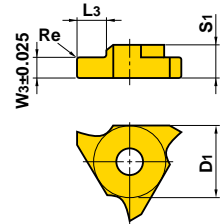
Order Number	Stock		Insert Number	Groove Width	Max. Groove Depth	Dimensions (mm)				
	R	L				W <sub>3</sub>	ap	H <sub>1</sub>	B	L <sub>1</sub>
MGHR/L2020K3315	●	●	MGTR/L 33125   33470	1.25	1.2	20	20	125	20	20.2
				1.45	1.5					
				1.5 ≤ W <sub>3</sub> ≤ 2.3	3.0					
2020K3323	●	●		2.3 < W <sub>3</sub> ≤ 3.3	3.0	20	20	125	20	20.2
2525M3315	●	●		1.25	1.2	25	25	150	25	25.2
				1.45	1.5					
				1.5 ≤ W <sub>3</sub> ≤ 2.3	3.0					
2525M3323	●	●		2.3 < W <sub>3</sub> ≤ 3.3	3.0	25	25	150	25	25.2
2525M3333	●	●		3.3 < W <sub>3</sub> ≤ 4.7	3.0	25	25	150	25	25.2
2020K4315	●	●		MGTR/L 43125   43470	1.25	1.2	20	20	125	20
			1.45		1.5					
			1.5 ≤ W <sub>3</sub> ≤ 2.3		3.0					
2020K4323	●	●	2.3 < W <sub>3</sub> ≤ 3.3		4.5	20	20	125	20	20.2
2020K4333	●	●	3.3 < W <sub>3</sub> ≤ 4.7		4.5	20	20	125	20	20.2
2525M4315	●	●	1.25		1.2	25	25	150	25	25.2
			1.45		1.5					
			1.5 ≤ W <sub>3</sub> ≤ 2.3		3.0					
2525M4323	●	●	2.3 < W <sub>3</sub> ≤ 3.3		4.5	25	25	150	25	25.2
2525M4333	●	●	3.3 < W <sub>3</sub> ≤ 4.7		4.5	25	25	150	25	25.2
2525M4447	●	●	MGTR/L 44500   44600	4.7 < W <sub>3</sub> ≤ 6.3	4.5	25	25	150	25	25.2

### SPARE PARTS

Tool Holder Number				
	Clamp Bridge	Clamp Screw	Spring	Wrench
MGHR/L2020K3315   MGHR/L2525M4447	MTK1R/L	HBH06020	MES3	HKY40R

## INSERTS

Order Number	Stock								Groove Width  W <sub>3</sub>	Dimensions (mm)				Geometry	
	Coated		Cermet				Carbide			L <sub>3</sub>	D <sub>1</sub>	S <sub>1</sub>	Re		
	VP20MF		NX2525		NX55		UT120T								
	R	L	R	L	R	L	R	L							
<b>MGTR/L33125</b>	★	□	□					●	●	1.25	1.2	9.525	4.76	0.2	<b>MGTR/L...</b>
<b>33145</b>	★	□	□					●	□	1.45	1.5	9.525	4.76	0.2	
<b>33150</b>	★	★	★	□				●	●	1.5	3	9.525	4.76	0.2	
<b>33175</b>	★	★	□	□				●	●	1.75	3	9.525	4.76	0.2	
<b>33200</b>	★	★	★	★				●	●	2	3	9.525	4.76	0.2	
<b>33230</b>	★	□						●	●	2.3	3	9.525	4.76	0.2	
<b>33250</b>	★	★	★	□				●	●	2.5	3	9.525	4.76	0.3	
<b>33270</b>	★	□						●	□	2.7	3	9.525	4.76	0.3	
<b>33280</b>	★	□						●	□	2.8	3	9.525	4.76	0.3	
<b>33300</b>	★	★	□	□				●	●	3	3	9.525	4.76	0.3	
<b>33320</b>	★	□						●		3.2	3	9.525	4.76	0.3	
<b>33330</b>	★	□						●	□	3.3	3	9.525	4.76	0.3	
<b>33350</b>	★	□	□					●	★	3.5	3	9.525	4.76	0.3	
<b>33400</b>	★	□	★	□				●	●	4	3	9.525	4.76	0.3	
<b>33470</b>	★	□						□	□	4.7	3	9.525	4.76	0.4	
<b>43125</b>	★	★	★	□	▲			●	●	1.25	1.2	12.7	4.76	0.2	
<b>43145</b>	★	□	□	□	▲			●	□	1.45	1.5	12.7	4.76	0.2	
<b>43150</b>	★	★	★	●	▲	▲		●	●	1.5	3	12.7	4.76	0.2	
<b>43175</b>	★	★	★	□	▲			●	●	1.75	3	12.7	4.76	0.2	
<b>43200</b>	★	★	★	●	▲	▲		●	●	2	3	12.7	4.76	0.2	
<b>43230</b>	★	★	●	★	▲	▲		●	●	2.3	3	12.7	4.76	0.2	
<b>43250</b>	★	★	★	★	▲	▲		●	●	2.5	4.5	12.7	4.76	0.3	
<b>43260</b>	★	□	□					●	●	2.6	4.5	12.7	4.76	0.3	
<b>43270</b>	★	□				▲		●	□	2.7	4.5	12.7	4.76	0.3	
<b>43280</b>	★	★	★	□	▲	▲		●	●	2.8	4.5	12.7	4.76	0.3	
<b>43300</b>	★	★	★	★	▲	▲		●	●	3	4.5	12.7	4.76	0.3	
<b>43320</b>	★	★	□		▲	▲		●	●	3.2	4.5	12.7	4.76	0.3	
<b>43330</b>	★	★	★	□		▲		●	●	3.3	4.5	12.7	4.76	0.3	
<b>43350</b>	★	□	★	□	▲	▲		●	●	3.5	4.5	12.7	4.76	0.3	
<b>43400</b>	★	★	★		▲			●	●	4	4.5	12.7	4.76	0.3	
<b>43420</b>	★	□	□					●	●	4.2	4.5	12.7	4.76	0.4	
<b>43430</b>	★	□	□		▲	▲		●	●	4.3	4.5	12.7	4.76	0.4	
<b>43450</b>	★	★	●	★		▲		●	●	4.5	4.5	12.7	4.76	0.4	
<b>43470</b>	★	□	□	□				●	□	4.7	4.5	12.7	4.76	0.4	
<b>44500</b>	★	★			▲			●	★	5	4.5	12.7	6.35	0.4	
<b>44550</b>	★	□						●	●	5.5	4.5	12.7	6.35	0.4	
<b>44600</b>	★	□			▲			●	●	6	4.5	12.7	6.35	0.4	
<b>56600</b>								★		6	6	15.875	9.525	0.4	
<b>56700</b>								●		7	6	15.875	9.525	0.4	
<b>56800</b>								●		8	6	15.875	9.525	0.4	
<b>56900</b>								★		9	6	15.875	9.525	0.4	



Right hand insert shown.

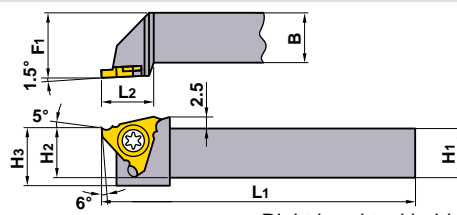
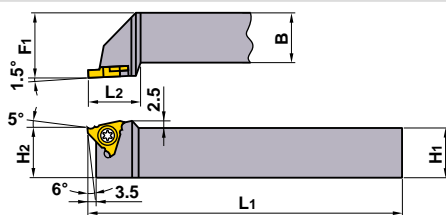
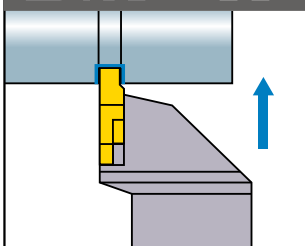
# EXTERNAL GROOVING

## SMG HOLDER



- Screw-on type.
- Positive insert suffers from negligible chattering.
- Applicable to narrow grooving and threading.
- Groove width 0.3–1.3mm.

### SMGH

#### External grooving, Threading

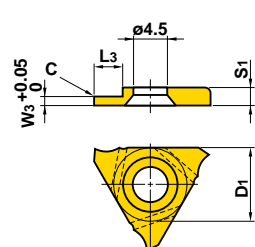


Right hand tool holder only.

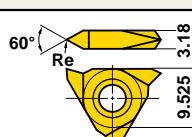
Order Number	Stock	Insert Number		Dimensions (mm)								
		Grooving	Threading	H1	B	L1	L2	H2	F1	H3		
<b>SMGHR1010E16</b>	★			10	10	70	16.5	10	12	14	FC400890T	TKY10F
<b>1212F16</b>	★	SMGTR 16x20000 16x20000C	SMTTR 16036000	12	12	80	16.5	12	16	14	FC400890T	TKY10F
<b>1616H16</b>	★			16	16	100	20	16	20	—	FC400890T	TKY10F
<b>2020K16</b>	★			20	20	125	20	20	25	—	FC400890T	TKY10F
<b>2525M16</b>	★			25	25	150	20	25	32	—	FC400890T	TKY10F

SMG HOLDER GROOVING

### SMG INSERTS (GROOVING)

Order Number	Stock			Groove Width W3	Dimensions (mm)				Geometry
	Cermet		Carbide		L3	D1	S1	C	
	NX2525	UTi20T	HTi10						
<b>SMGTR16X2030</b>	★	★	★	0.3	1	9.525	2	—	
<b>16X2040</b>	□	□	□	0.4	1	9.525	2	—	
<b>16X2050</b>	★	★	★	0.5	1.5	9.525	2	—	
<b>16X2060</b>	□	□	□	0.6	1.5	9.525	2	—	
<b>16X2070</b>	★	★	★	0.7	2	9.525	2	—	
<b>16X2050C</b>	★	★	★	0.5	1.5	9.525	2	0.05	
<b>16X2060C</b>	□	□	□	0.6	1.5	9.525	2	0.05	
<b>16X2070C</b>	□	□	□	0.7	2	9.525	2	0.05	
<b>16X2075C</b>	★	★	★	0.75	2	9.525	2	0.05	
<b>16X2080C</b>	★	★	★	0.8	2	9.525	2	0.1	
<b>16X2090C</b>	□	□	□	0.9	2	9.525	2	0.1	
<b>16X2095C</b>	★	★	★	0.95	2	9.525	2	0.1	
<b>16X2100C</b>	★	★	★	1	2.5	9.525	2	0.1	
<b>16X2110C</b>	□	□	□	1.1	2.5	9.525	2	0.1	
<b>16X2120C</b>	★	★	★	1.2	2.5	9.525	2	0.1	
<b>16X2130C</b>	□	□	□	1.3	2.5	9.525	2	0.1	

### SMT INSERTS (THREADING)

Order Number	Stock		Dimensions (mm)	Thread Pitch (mm)	Geometry
	Cermet	Carbide			
<b>SMTTR160360V5</b>	★	★	0.05	— 0.8	
<b>16036001</b>	★	★	0.1	1.0–1.5	
<b>16036002</b>	★	★	0.2	1.75–2.0	

(Note) Wet cutting is recommended.

### RECOMMENDED CUTTING CONDITIONS

	Work Material	Hardness	Grade	Cutting Speed (m/min)	Feed (mm/rev)
<b>P</b>	Carbon Steel Alloy Steel	180–280HB	UTi20T	100 (80–120)	0.07 (0.03–0.1)
			NX2525	130 (100–160)	0.07 (0.03–0.1)
<b>M</b>	Stainless Steel	≤200HB	UTi20T	130 (100–160)	0.1 (0.05–0.15)
<b>K</b>	Cast Iron	Tensile Strength ≤350N/mm <sup>2</sup>	UTi20T HTi10	100 (80–120)	0.1 (0.05–0.15)
<b>N</b>	Aluminium Alloy	—	HTi10	350 (300–400)	0.1 (0.05–0.15)
	Brass	—	HTi10	250 (200–300)	0.1 (0.03–0.15)
	Acrylic	—	HTi10	250 (200–300)	0.1 (0.03–0.15)

# MICRO-MINI

- Solid carbide type with min. cutting diameter 3.2mm.
- l/d is 5 times the diameter.
- Insert can be ground to suit the application.
- Suitable for a wide range of tooling including threading and grooving.

## MICRO-MINI STANDARD (SOLID CARBIDE BORING BAR)

Order Number	Stock	Dimensions (mm)				Min. Cutting Diameter	Max. Groove Depth	Geometry
	Micro Grain Carbide	W3	D4	L1	L2			
	TF15							
C03FR-BLS	★	2.0	3	80	15	3.2	1.0	<p>Right hand tool holder only.</p>
C04FR-BLS	★	2.5	4	80	20	4.2	1.5	
C05HR-BLS	★	3.0	5	100	25	5.2	2.0	

## RECOMMENDED CUTTING CONDITIONS

Work Material	Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)	Excrescence Quantity (l/d)	Edge Condition	
					Corner Radius or C *	Honing *
<b>P</b> Steel	40 (30-50)	0.05 (-0.1)	0.2 (0.1-0.3)	5	0.1-0.5	0.01-0.05
<b>M</b> Stainless Steel	40 (30-50)	0.05 (-0.1)	0.2 (0.1-0.3)	5	≤0.4	≤0.03 (No honing is okay.)
<b>K</b> Cast Iron	40 (30-50)	0.05 (-0.05)	0.2 (0.1-0.3)	5	0.1-0.5	0.01-0.05
<b>N</b> Non-Ferrous	80 (60-100)	0.05 (-0.1)	0.3 (0.1-0.5)	5	0.1-0.5	≤0.03 (No honing is okay.)

\*Cutting edge is not honed. Please hone according to the workpiece before machining.

## GRINDING THE CUTTING EDGE OF MICRO-MINI

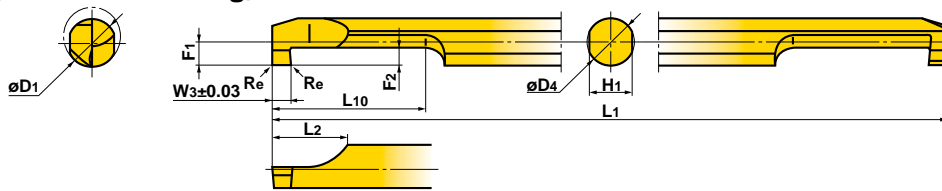
- MICRO-MINI can be used for boring and grooving as it is. But, it can also be reground as shown below.
- For shaping and regrinding, use diamond whetstone approximately #250-#400. Please grind according to application using the figure below as a reference.

Application	Boring	Grooving	Threading
Grinding Examples			

MICRO-MINI GROOVING

# MICRO-MINI TWIN

## CG TYPE (Internal Grooving)



Order Number	Stock		Breaker	Min. Cutting Diameter D1	Groove Width W3	Max. Groove Depth F2	Dimensions (mm)						
	Micro Grain Carbide	Coated					Re	D4	L1	L10	L2	F1	H1
	TF15	VP15TF											
CG03RS-10	●	●	Without	3	1	1	0.05	3	50	10	6	1.3	2.7
03RS-10B	●	●	With	3	1	1	0.05	3	50	10	6	1.3	2.7
03RS-20	●	●	Without	3	2	1	0.1	3	50	11	6	1.3	2.7
03RS-20B	●	●	With	3	2	1	0.1	3	50	11	6	1.3	2.7
04RS-10	●	●	Without	4	1	1.5	0.05	4	60	15	7	1.8	3.6
04RS-10B	●	●	With	4	1	1.5	0.05	4	60	15	7	1.8	3.6
04RS-20	●	●	Without	4	2	1.5	0.1	4	60	16	7	1.8	3.6
04RS-20B	●	●	With	4	2	1.5	0.1	4	60	16	7	1.8	3.6
05RS-10	●	●	Without	5	1	2	0.05	5	70	20	8	2.3	4.5
05RS-10B	●	●	With	5	1	2	0.05	5	70	20	8	2.3	4.5
05RS-20	●	●	Without	5	2	2	0.1	5	70	21	8	2.3	4.5
05RS-20B	●	●	With	5	2	2	0.1	5	70	21	8	2.3	4.5
06RS-10	●	●	Without	6	1	2	0.05	6	75	20	8	2.8	5.4
06RS-10B	●	●	With	6	1	2	0.05	6	75	20	8	2.8	5.4
06RS-20	●	●	Without	6	2	2	0.1	6	75	21	8	2.8	5.4
06RS-20B	●	●	With	6	2	2	0.1	6	75	21	8	2.8	5.4
07RS-10	●	●	Without	7	1	2	0.05	7	85	25	8	3.3	6.4
07RS-10B	●	●	With	7	1	2	0.05	7	85	25	8	3.3	6.4
07RS-20	●	●	Without	7	2	2	0.1	7	85	26	8	3.3	6.4
07RS-20B	●	●	With	7	2	2	0.1	7	85	26	8	3.3	6.4

MICRO-MINI TWIN GROOVING

## RECOMMENDED CUTTING CONDITIONS

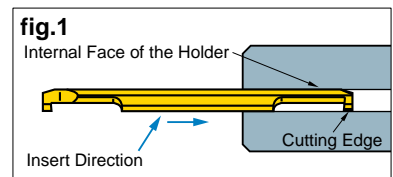
Work Material	Cutting Speed (m/min)	Feed (mm/rev)		Recommended Tool Overhang (mm)
		CG03RS/CG04RS	CG05RS/CG06RS/CG07RS	
<b>P</b> Steel	80 (40-120)	0.02 (0.01-0.03)	0.03 (0.01-0.05)	
<b>M</b> Stainless Steel	80 (40-120)	0.02 (0.01-0.03)	0.03 (0.01-0.05)	
<b>K</b> Cast Iron	80 (40-120)	0.03 (0.01-0.05)	0.03 (0.01-0.05)	
<b>N</b> Non-Ferrous	120 (80-160)	0.03 (0.01-0.05)	0.05 (0.01-0.08)	

(Note) Wet cutting is recommended.

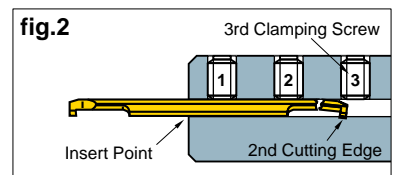
## PRECAUTIONS WHEN USING THE MICRO-MINI TWIN

● When using a holder for general purpose / small automatic lathe:

① To avoid chipping of the 2nd cutting edge take care when inserting the boring bar into the holder. Refer to fig.1. If the 2nd edge contacts the internal face of the holder there is a possibility that it may chip.



② When using this type of holder, there is a possibility that damage to the shank and the 2nd cutting edge can occur. Make sure that the clamping screws are tightened to the set torque value. Additionally make sure that there is no clamping screw near the 2nd cutting edge as this can break the boring bar.

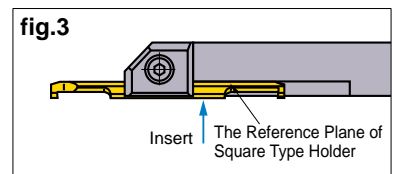


◎ When using Mitsubishi holders

When using holders with a tool overhang of recommended quantity, ensure that the 3rd clamping screw is removed prior to machining. The set torque value for clamping screw is 2.0 N•m.

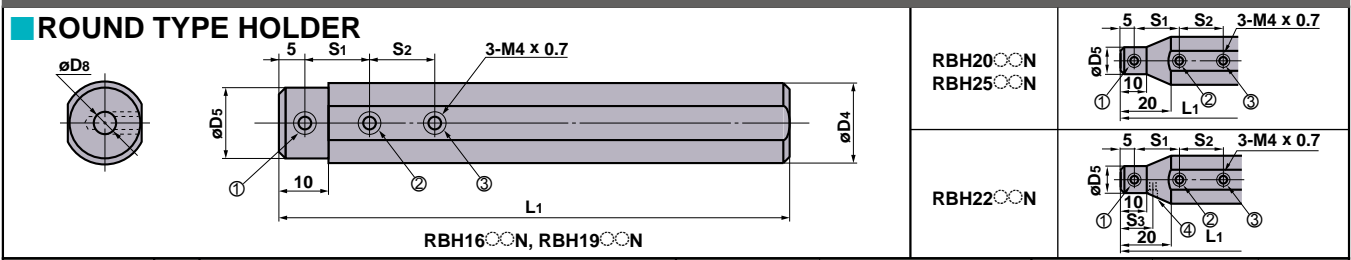
● When using a square type holder:

① When installing the boring bar into the holder, tighten the clamp screws after ensuring the flats on the tool holder are parallel to the reference flats on the micro-mini bar. Refer to fig.3.



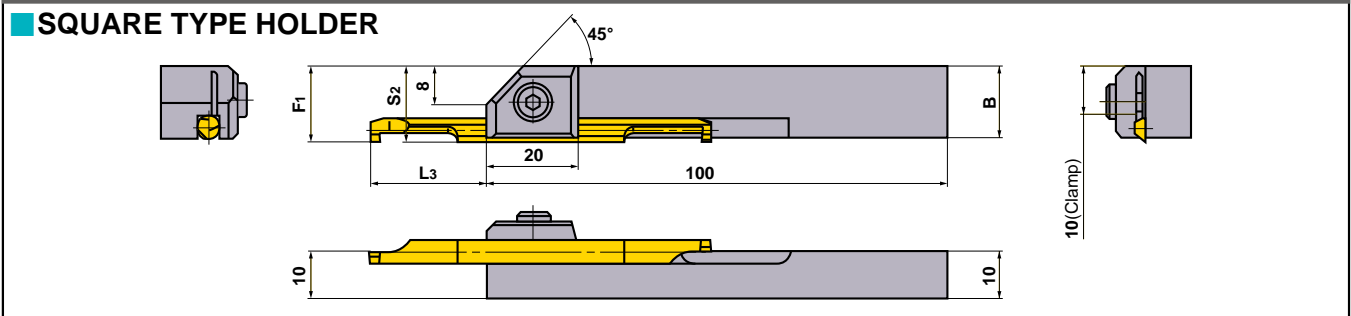
② Make sure that the clamping screws are tightened to the recommended values.

③ Do not tighten the clamp screw without a bar in place, otherwise the bridge will be deformed.



Order Number	Stock	Dimensions (mm)							MICRO-MINI C	MICRO-MINI TWIN CG	* Clamp Screw				Wrench	Torque (N•m)
		D4	D8	D5	L1	S1	S2	S3			①	②	③	④		
RBH1630N	●	16	3	15	100	10	10	—	03FR-BLS	03RS-○○, 03RS-○○B	A	A	A	—	HKY20F	2.0
1640N	●	16	4	15	100	15	15	—	04FR-BLS	04RS-○○, 04RS-○○B	A	A	A	—	HKY20F	2.0
1650N	●	16	5	15	100	15	15	—	05HR-BLS	05RS-○○, 05RS-○○B	A	A	A	—	HKY20F	2.0
1660N	●	16	6	15	100	20	20	—	—	06RS-○○, 06RS-○○B	A	A	A	—	HKY20F	2.0
1670N	●	16	7	15	100	20	20	—	—	07RS-○○, 07RS-○○B	A	A	A	—	HKY20F	2.0
RBH19030N	●	19.05	3	18	125	10	10	—	03FR-BLS	03RS-○○, 03RS-○○B	B	B	B	—	HKY20F	2.0
19040N	●	19.05	4	18	125	15	15	—	04FR-BLS	04RS-○○, 04RS-○○B	B	B	B	—	HKY20F	2.0
19050N	●	19.05	5	18	125	15	15	—	05HR-BLS	05RS-○○, 05RS-○○B	B	B	B	—	HKY20F	2.0
19060N	●	19.05	6	18	125	20	20	—	—	06RS-○○, 06RS-○○B	B	B	B	—	HKY20F	2.0
19070N	●	19.05	7	18	125	20	20	—	—	07RS-○○, 07RS-○○B	B	B	B	—	HKY20F	2.0
RBH2030N	★	20	3	12	125	10	10	—	03FR-BLS	03RS-○○, 03RS-○○B	A	A	B	—	HKY20F	2.0
2040N	★	20	4	13	125	15	15	—	04FR-BLS	04RS-○○, 04RS-○○B	A	B	B	—	HKY20F	2.0
2050N	★	20	5	14	125	15	15	—	05HR-BLS	05RS-○○, 05RS-○○B	A	B	B	—	HKY20F	2.0
2060N	★	20	6	15	125	20	20	—	—	06RS-○○, 06RS-○○B	A	B	B	—	HKY20F	2.0
2070N	★	20	7	16	125	20	20	—	—	07RS-○○, 07RS-○○B	A	B	B	—	HKY20F	2.0
RBH2230N	★	22	3	12	125	10	10	10	03FR-BLS	03RS-○○, 03RS-○○B	A	B	C	A	HKY20F	2.0
2240N	★	22	4	13	125	15	15	12.5	04FR-BLS	04RS-○○, 04RS-○○B	A	B	B	A	HKY20F	2.0
2250N	★	22	5	14	125	15	15	12.5	05HR-BLS	05RS-○○, 05RS-○○B	A	B	B	A	HKY20F	2.0
2260N	★	22	6	15	125	20	20	15	—	06RS-○○, 06RS-○○B	A	B	B	A	HKY20F	2.0
2270N	★	22	7	16	125	20	20	15	—	07RS-○○, 07RS-○○B	A	B	B	A	HKY20F	2.0
RBH2530N	★	25	3	12	150	10	10	—	03FR-BLS	03RS-○○, 03RS-○○B	A	B	C	—	HKY20F	2.0
2540N	★	25	4	13	150	15	15	—	04FR-BLS	04RS-○○, 04RS-○○B	A	C	C	—	HKY20F	2.0
2550N	★	25	5	14	150	15	15	—	05HR-BLS	05RS-○○, 05RS-○○B	A	C	C	—	HKY20F	2.0
2560N	★	25	6	15	150	20	20	—	—	06RS-○○, 06RS-○○B	A	C	C	—	HKY20F	2.0
2570N	★	25	7	16	150	20	20	—	—	07RS-○○, 07RS-○○B	A	C	C	—	HKY20F	2.0

\* Order number of clamp screw A=HSS04004, B=HSS04006, C=HSS04008



Order Number	Stock	Dimensions (mm)					MICRO-MINI TWIN CG	Clamp Screw	Wrench	Torque (N•m)
		MICRO-MINI TWIN CG								
		B	F1	L3 *		S2				
SBH1030R	●	13.8	13.8	13-17.5(14)	14-16.5(15)	14	03RS-10, 03RS-10B, 03RS-20, 03RS-20B	HSC05012	HKY40R	9.5
1040R	●	14.7	14.8	18-22.5(19)	19-21.5(20)	15	04RS-10, 04RS-10B, 04RS-20, 04RS-20B	HSC05012	HKY40R	9.5
1050R	●	15.6	15.8	23-27.5(24)	24-26.5(25)	16	05RS-10, 05RS-10B, 05RS-20, 05RS-20B	HSC05012	HKY40R	9.5
1060R	●	16.5	16.8	23-32.5(24)	24-31.5(25)	17	06RS-10, 06RS-10B, 06RS-20, 06RS-20B	HSC05012	HKY40R	9.5
1070R	●	17.4	17.8	28-38(29)	29-37(30)	18	07RS-10, 07RS-10B, 07RS-20, 07RS-20B	HSC05012	HKY40R	9.5

\* L3 is the length of overhang for sufficient clamping, and ( ) is the recommended length for steel machining and for general purpose.

# INTERNAL GROOVING

## F TYPE

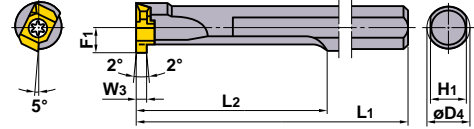
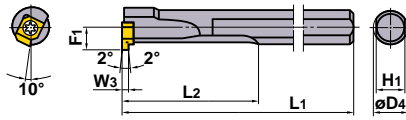
- Min. cutting diameter 10mm.
- Screw-on type.
- Usable for various applications.
- Max. groove depth : 3mm.

### FSL51



#### Internal grooving, Threading, Boring

1 Corner type (FSL5108R,5110R)

2 Corner type (FSL5112R,5114R,5116R)



Right hand tool holder only.

Order Number	Stock	Insert Number						Dimensions (mm)						Min. Cutting Diameter	Max. Groove Depth	 Clamp Screw	 Wrench
		R	Grooving	Threading	Boring	D4	L1	L2	F1	H1	W3						
<b>FSL5108R</b>	●		10 $\odot$ L	MLT	1001L	MLP	1004L	8	125	30	4.8	7	1.2	<b>10</b>	1.0	TS25	TKY08F
<b>5110R</b>	●	MLG	10 $\odot$ L	MLT	1001L	MLP	1004L	10	150	40	5.8	9	1.5				
<b>5112R</b>	●		14 $\odot$ L	MLT	1401L	MLP	1404L	12	180	50	6.8	10.8	1.5	<b>14</b>	2.0	TS32	TKY08F
<b>5114R</b>	●	MLG	14 $\odot$ L	MLT	1401L	MLP	1404L	14	180	60	7.8	12.4	2.0				
<b>5116R</b>	●		20 $\odot$ L	MLT	2001L	MLP	2004L	16	200	70	9.7	14	2.0	<b>20</b>	3.0	TS43	TKY15F
		MLG	20 $\odot$ L	MLT	2001L	MLP	2004L						3.0				
													4.0				

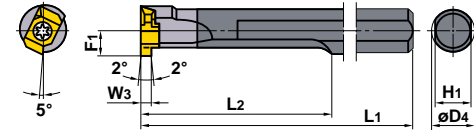
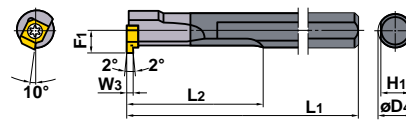
F TYPE GROOVING

### FSL52



#### (Carbide shank) Internal grooving, Threading, Boring

1 Corner type (FSL5208R,5210R)

2 Corner type (FSL5212R,5214R,5216R)



Right hand tool holder only.

Order Number	Stock	Insert Number						Dimensions (mm)						Min. Cutting Diameter	Max. Groove Depth	 Clamp Screw	 Wrench
		R	Grooving	Threading	Boring	D4	L1	L2	F1	H1	W3						
<b>FSL5208R</b>	●		10 $\odot$ L	MLT	1001L	MLP	1004L	8	125	60	4.8	7	1.2	<b>10</b>	1.0	TS25	TKY08F
<b>5210R</b>	●	MLG	10 $\odot$ L	MLT	1001L	MLP	1004L	10	150	70	5.8	9	1.5				
<b>5212R</b>	●		14 $\odot$ L	MLT	1401L	MLP	1404L	12	180	80	6.8	10.8	1.5	<b>14</b>	2.0	TS32	TKY08F
<b>5214R</b>	●	MLG	14 $\odot$ L	MLT	1401L	MLP	1404L	14	180	85	7.8	12.4	2.0				
<b>5216R</b>	●		20 $\odot$ L	MLT	2001L	MLP	2004L	16	200	115	9.7	14	2.0	<b>20</b>	3.0	TS43	TKY15F
		MLG	20 $\odot$ L	MLT	2001L	MLP	2004L						3.0				
													4.0				

## INSERTS

Application	Groove Width/ Thread Pitch <b>W<sub>3</sub></b>	Order Number	Coated		Carbide		Dimensions (mm)					Geometry
			UP20M	UTi20T	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	S <sub>1</sub>	Re	C		
Grooving	1.2	<b>MLG1012L</b>	☐	●	7	5	1	2.38	—	0.1	<b>MLG...L</b> 	
	1.5	<b>1015L</b>	☐	●	7	5	1	2.38	—	0.1		
	2	<b>1020L</b>	☐	●	7	5	1	2.38	—	0.1		
	Grooving	1.5	<b>MLG1415L</b>		●	11.8	6.5	2	4.76	—	0.1	<b>MLG...L</b> 
		2	<b>1420L</b>		●	11.8	6.5	2	4.76	—	0.1	
		3	<b>1430L</b>		●	11.8	6.5	2	4.76	—	0.1	
		2	<b>2020L</b>		●	16.8	9.03	3	6.35	—	0.1	
		3	<b>2030L</b>		●	16.8	9.03	3	6.35	—	0.1	
		4	<b>2040L</b>		●	16.8	9.03	3	6.35	—	0.1	
	Threading	Pitch 1.5–2.0	<b>MLT1001L</b>	★	★	7	5	—	2.38	0.1	—	<b>MLT • MLP</b> 
Pitch 1.5–2.5		<b>1401L</b>	★	★	11.8	6.5	—	4.76	0.1	—		
Pitch 1.5–3.5		<b>2001L</b>	★	★	16.8	9.03	—	6.35	0.1	—		
Boring	—	<b>MLP1004L</b>		★	7	5	1	2.38	0.4	—	<b>MLT • MLP14, 20</b> 	
	—	<b>1404L</b>		★	11.8	6.3	2	4.76	0.4	—		
	—	<b>2004L</b>		★	16.8	9.03	3	6.35	0.4	—		

F TYPE GROOVING

## RECOMMENDED CUTTING CONDITIONS

Work Material	Hardness	Grade	Cutting Speed (m/min)	Feed (mm/rev)			
				1.2, 1.5mm	2.0mm	3.0mm	4.0mm
<b>P</b> Carbon Steel Alloy Steel	180–280HB	<b>UP20M • UTi20T</b>	90 (60–120)	0.05 (0.02–0.08)	0.05 (0.02–0.08)	0.05 (0.02–0.08)	0.05 (0.02–0.08)
	280–350HB	<b>UP20M • UTi20T</b>	80 (50–100)	0.03 (0.02–0.04)	0.03 (0.02–0.04)	0.03 (0.02–0.04)	0.03 (0.02–0.04)

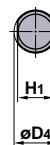
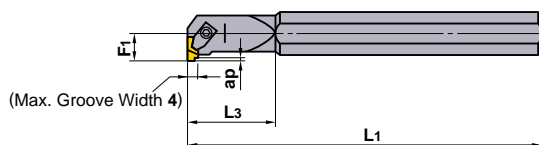
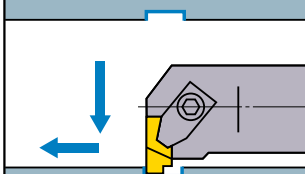
# INTERNAL GROOVING

## F TYPE

- Min. cutting diameter 23mm.
- Clamp-on type.
- Precision class insert.
- Max. depth of groove : 3mm.

### FCL51

### Internal grooving, Threading



(Note) Cutting in the opposite direction is impossible.

Right hand tool holder shown.

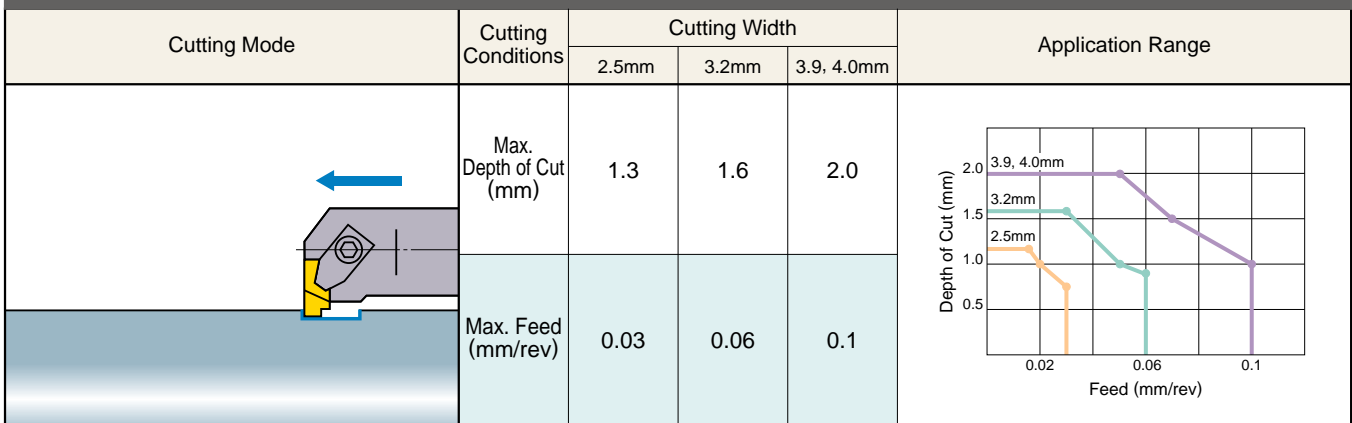
Order Number	Stock		Insert Number			Dimensions (mm)					Min. Cutting Diameter	Max. Groove Depth	Standard Corner Radius	Clamp Bridge	Clamp Screw	Wrench	
	R	L	Grooving	Threading		D4	L1	L3	F1	H1							ap
<b>FCL5116R/L</b>	●	●	LGL/R	1250 1320 1390 1400	LTL/R	1600 1601 1602	16	200	35	11.5	14	<b>23</b>	3	0.1	LK1	HBH04012	HKY25R
<b>5120R/L</b>	●	●					20	200	35	14.5	18	<b>29</b>	3	0.1	LK1	HBH04012	HKY25R
<b>5125R/L</b> (4 Sides Flat Shank)	●	●					25	250	40	17.0	22	<b>34</b>	3	0.1	LK1	HBH04012	HKY25R
<b>5132R/L</b> (4 Sides Flat Shank)	●	●					32	300	45	20.0	29	<b>40</b>	3	0.1	LK1	HBH04012	HKY25R

(Note) When using inserts with right or left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

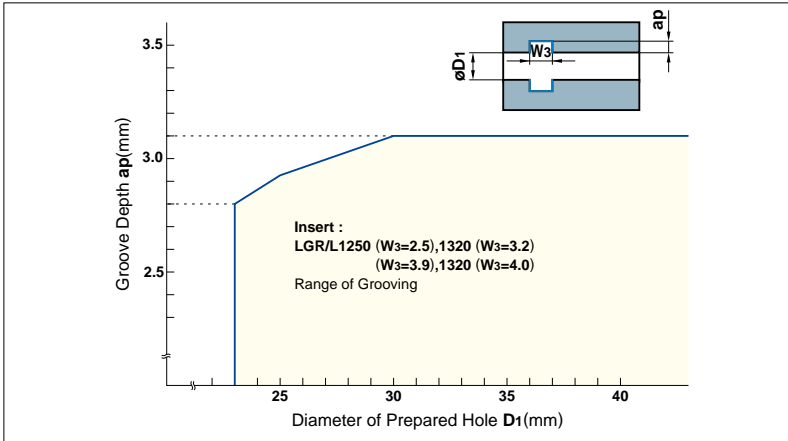
## INSERTS

Application	Order Number	Cermet			Carbide	Groove Width Thread Pitch W <sub>3</sub> (mm)	Dimensions (mm)						Geometry
		NX2525	NX55	UT120T	L1		L2	L3	S1	Re	C		
Grooving	<b>LGR1250</b>	□		●	2.5	10	5	3.1	4	—	0.25	<b>LGR/L</b> 	
	<b>L1250</b>	★		●	2.5	10	5	3.1	4	—	0.25		
	<b>R1320</b>			●	3.2	10	5	3.1	4	—	0.25		
	<b>L1320</b>	□		●	3.2	10	5	3.1	4	—	0.25		
	<b>R1390</b>			●	3.9	10	5	3.1	4	—	0.25		
	<b>L1390</b>	□		●	3.9	10	5	3.1	4	—	0.25		
	<b>R1400</b>			●	4	10	5	3.1	4	—	0.25		
	<b>L1400</b>	□		★	4	10	5	3.1	4	—	0.25		
Threading	<b>LTR1600</b>		●	●	0-0.8	10	5	—	4	0	—	<b>LTR/L(60°)</b> 	
	<b>L1600</b>		★	●	0-0.8	10	5	—	4	0	—		
	<b>R1601</b>		●	★	1.0-1.75	10	5	—	4	0.1	—		
	<b>L1601</b>		★	●	1.0-1.75	10	5	—	4	0.1	—		
	<b>R1602</b>		●	●	2.0, 2.5	10	5	—	4	0.2	—		
	<b>L1602</b>		★	●	2.0, 2.5	10	5	—	4	0.2	—		

## TRAVERSE MACHINING



### ● Relationship between prepared hole and groove depth for FCL5 type



## RECOMMENDED CUTTING CONDITIONS

Work Material	Hardness	Grade	Cutting Speed (m/min)	Feed (mm/rev)		
				Groove Width 2.5mm	Groove Width 3.2mm	Groove Width 3.9, 4.0mm
P Mild Steel	≤180HB	NX2525 • NX55	120 (80–160)	0.1 (0.05–0.15)	0.15 (0.1–0.2)	0.2 (0.1–0.3)
		UTi20T	100 (80–120)			
Carbon Steel Alloy Steel	180–280HB	NX2525 • NX55	120 (80–160)	0.08 (0.05–0.10)	0.12 (0.1–0.15)	0.15 (0.15–0.2)
		UTi20T	100 (80–120)			
	280–350HB	NX2525 • NX55	100 (80–120)	0.08 (0.05–0.10)	0.1 (0.08–0.12)	0.12 (0.1–0.15)
		UTi20T	100 (80–120)			
N Aluminium Alloy	—	HTi10	150 (120–180)	0.1 (0.05–0.15)	0.15 (0.1–0.2)	0.2 (0.1–0.3)

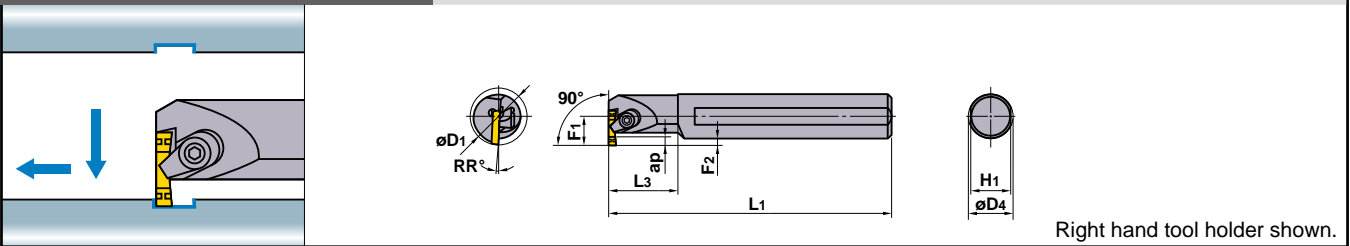
(Note) Wet cutting is recommended.

# INTERNAL GROOVING

## F TYPE

- Clamp-on type.
- Available for grooving and copying or grooving only.
- Max. groove depth : 8mm.

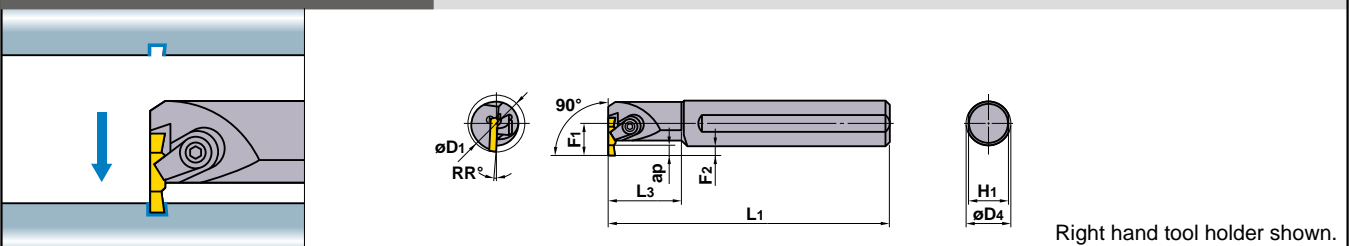
### FCDG4..M Grooving, Copying



Order Number	Stock		Insert Number	Dimensions (mm)							Min. Cutting Diameter D1	Groove Depth		Clamp Set	Wrench
	R	L		D4	L1	L3	F1	H1	RR	ap		F2			
<b>FCDG4120R/L3M</b>	●	●	DGM30CT	20	180	32	13	18	5°	25	5	2.5	BC5	TKY20R	
<b>4125R/L3M</b>	●	●		25	200	40	17	23	3°	32	7	4.0	BC5	TKY20R	
<b>4132R/L3M</b>	●	●		32	250	50	22	30	1°	40	8	5.5	BC5	TKY20R	
<b>4120R/L4M</b>	●	●	DGM40CT DGJ40SN	20	180	32	13	18	5°	25	5	2.5	BC5	TKY20R	
<b>4125R/L4M</b>	●	●		25	200	40	17	23	3°	32	7	4.0	BC5	TKY20R	
<b>4132R/L4M</b>	●	●		32	250	50	22	30	1°	40	8	5.5	BC5	TKY20R	

F TYPE GROOVING

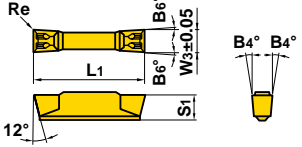
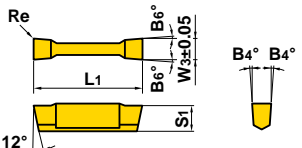
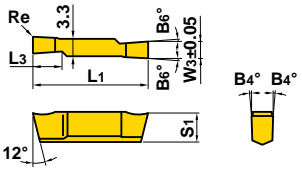
### FCDG4..J Grooving



Order Number	Stock		Insert Number	Dimensions (mm)							Min. Cutting Diameter D1	Groove Depth		Clamp Set	Wrench
	R	L		D4	L1	L3	F1	H1	RR	ap		F2			
<b>FCDG4120R/L4J</b>	●	●	DGJ○○○SNL/R DGJ40SN	20	180	32	13	18	5°	25	5	2.5	BC5	TKY20R	
<b>4125R/L4J</b>	●	●		25	200	40	17	23	3°	32	5	4.0	BC5	TKY20R	
<b>4132R/L4J</b>	●	●		32	250	50	22	30	1°	40	5	5.5	BC5	TKY20R	

(Note) When using inserts with right or left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

## INSERTS

Order Number	Stock						Groove Width W <sub>3</sub>	Dimensions (mm)						Geometry
	Coated			Cermet		Carbide		L <sub>1</sub>	L <sub>3</sub>	S <sub>1</sub>	Re	B <sub>4</sub>	B <sub>6</sub>	
	UE6020	US735	VP20MF	NX2525	NX55	UTi20T								
<b>DGM30CT</b>	●	●	●	●		●	3	20	–	5	0.4	3°	1°30'	<b>DGM...CT</b> 
<b>40CT</b>	●	●	●	●			4	20	–	5	0.4	5°	2°	
<b>DGJ40SN</b>				□	▲	●	4	20	–	5	0.2	2°	2°	<b>DGJ...SN</b> 
<b>DGJ100SNR</b>					▲	●	1	20	2	5	0.2	2°	2°	<b>DGJ...SNR/L</b> 
<b>100SNL</b>				□	▲	●	1	20	2	5	0.2	2°	2°	
<b>150SNR</b>					▲	●	1.5	20	3	5	0.2	2°	2°	
<b>150SNL</b>				□	▲	●	1.5	20	3	5	0.2	2°	2°	
<b>200SNR</b>					▲	●	2	20	4	5	0.2	2°	2°	
<b>200SNL</b>				□	▲	●	2	20	4	5	0.2	2°	2°	
<b>250SNR</b>					▲	●	2.5	20	4	5	0.2	2°	2°	
<b>250SNL</b>				□	▲	●	2.5	20	4	5	0.2	2°	2°	
<b>300SNR</b>					▲	●	3	20	5	5	0.2	2°	2°	
<b>300SNL</b>				□	▲	●	3	20	5	5	0.2	2°	2°	
<b>350SNR</b>					▲	●	3.5	20	5	5	0.2	2°	2°	
<b>350SNL</b>					▲	●	3.5	20	5	5	0.2	2°	2°	

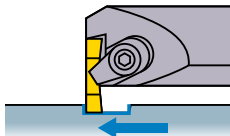
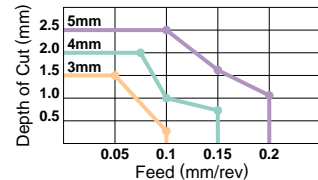
F TYPE GROOVING

## RECOMMENDED CUTTING CONDITIONS

	Work Material	Hardness	Grade	Cutting Speed (m/min)	Feed (mm/rev)		
					Groove Width 3mm	Groove Width 4mm	Groove Width 5mm
P	Mild Steel	≤180HB	UE6020 • NX2525 UTi20T	120 (100–150)	0.08 (0.05–0.1)	0.1 (0.08–0.15)	0.15 (0.1–0.2)
	Carbon Steel • Alloy Steel	180–280HB	UE6020 • NX2525 UTi20T	100 (80–120)	0.08 (0.05–0.1)	0.1 (0.08–0.15)	0.12 (0.1–0.15)
M	Stainless Steel	≤200HB	US735 • UTi20T	80 (60–100)	0.08 (0.05–0.1)	0.1 (0.08–0.15)	0.12 (0.1–0.15)
K	Cast Iron	Tensile Strength ≤350N/mm <sup>2</sup>	UTi20T	80 (60–100)	0.08 (0.05–0.1)	0.1 (0.08–0.15)	0.15 (0.1–0.2)

(Note) Wet cutting is recommended.

### ● TRAVERSE MACHINING

Cutting Mode	Cutting Conditions	Cutting Width			Application Range	
		3mm	4mm	5mm		
These conditions are used in cutting DIN Ck45 (180–280HB) at v <sub>c</sub> =100m/min. Wet cutting is recommended.		Max. Depth of Cut (mm)	1.5	2.0	2.5	
	Max. Feed (mm/rev)	0.1	0.15	0.2		

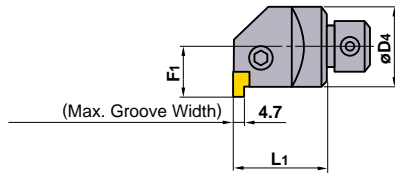
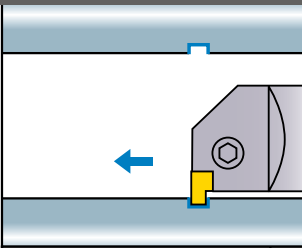
# INTERNAL GROOVING

## D TYPE BORING HEAD

- Min. cutting diameter : 40mm.
- Pin lock type.
- Exchangeable head type.
- Groove width 1.25–4.7mm.

### DPT4

### Internal grooving



Right hand tool holder only.

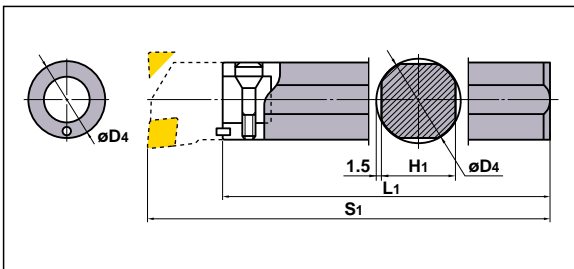
Order Number	Stock	Insert Number	Dimensions (mm)			Min. Cutting Diameter				
	R		D4	L1	F1		Lock Pin	Lock Screw	Stop Ring	Wrench
<b>DPT4132R</b>	★	MGTL43○○○○	32	40	20	<b>40</b>	P21S	HSP08014	E01	HKY40R
<b>4140R</b>	★		40	50	25	<b>50</b>	P21S	HSP08014	E01	HKY40R

(Note) Please use left hand insert.

D TYPE BORING HEAD GROOVING

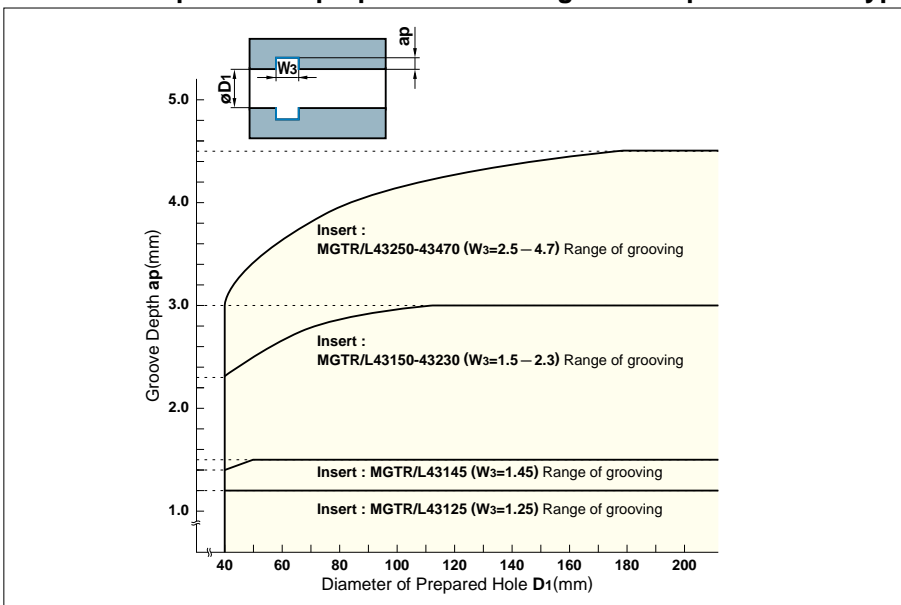
## STANDARD ARBOR FOR D TYPE BORING HEAD

① Designation	② Arbor Length (mm)			③ Arbor Diameter (mm)		④ Head Diameter (mm)	
	Symbol	D4	L1	S1	Symbol	Diameter (D4)	
1		32	260	300	32	32	
		40	310	360	40	40	



Order Number	Stock	Dimensions (mm)				Set Bolt	Wrench	Head Order Number
		D4	L1	H1	S1			
<b>B13232</b>	★	32	260	29	300	SD32	HKY60R	<b>D○○○○32</b>
<b>B14040</b>	★	40	310	37	360	SD40	HKY60R	<b>D○○○○40</b>

## Relationship between prepared hole and groove depth for DPT4 type



● : Inventory maintained. ★ : Inventory maintained in Japan.

□ : Non stock, produced to order only. ▲ : Inventory maintained. To be replaced by new products.

## INSERTS

Order Number	Stock				Dimensions (mm)				Groove Width W <sub>3</sub>	Geometry
	Coated VP20MF	Cermets		Carbide UT120T	L <sub>3</sub>	D <sub>1</sub>	S <sub>1</sub>	Re		
		NX2525	NX55							
<b>MGTL43125</b>	★	□		●	1.2	12.7	4.76	0.2	1.25	
<b>43145</b>	□	□		□	1.5	12.7	4.76	0.2	1.45	
<b>43150</b>	★	●	▲	●	3.0	12.7	4.76	0.2	1.5	
<b>43175</b>	★	□		●	3.0	12.7	4.76	0.2	1.75	
<b>43200</b>	★	●	▲	●	3.0	12.7	4.76	0.2	2	
<b>43230</b>	★	★	▲	●	3.0	12.7	4.76	0.2	2.3	
<b>43250</b>	★	★	▲	●	4.5	12.7	4.76	0.3	2.5	
<b>43260</b>	□			●	4.5	12.7	4.76	0.3	2.6	
<b>43270</b>	□		▲	□	4.5	12.7	4.76	0.3	2.7	
<b>43280</b>	★	□	▲	●	4.5	12.7	4.76	0.3	2.8	
<b>43300</b>	★	★	▲	●	4.5	12.7	4.76	0.3	3	
<b>43320</b>	★		▲	●	4.5	12.7	4.76	0.3	3.2	
<b>43330</b>	★	□	▲	●	4.5	12.7	4.76	0.3	3.3	
<b>43350</b>	□	□	▲	●	4.5	12.7	4.76	0.3	3.5	
<b>43400</b>	★			●	4.5	12.7	4.76	0.3	4	
<b>43420</b>	□			●	4.5	12.7	4.76	0.4	4.2	
<b>43430</b>	□		▲	●	4.5	12.7	4.76	0.4	4.3	
<b>43450</b>	★	★	▲	●	4.5	12.7	4.76	0.4	4.5	
<b>43470</b>	□	□		□	4.5	12.7	4.76	0.4	4.7	

D TYPE BORING HEAD GROOVING

## RECOMMENDED CUTTING CONDITIONS

	Work Material	Hardness	Grade	Cutting Speed (m/min)	Feed (mm/rev)
<b>P</b>	Carbon Steel Alloy Steel	180 – 280HB	<b>VP20MF</b>	120 (100 – 140)	0.14 (0.03 – 0.25)
			<b>NX2525</b>	130 (100 – 160)	0.12 (0.03 – 0.2)
<b>M</b>	Stainless Steel	≤200HB	<b>VP20MF</b>	120 (100 – 140)	0.12 (0.03 – 0.18)
<b>K</b>	Cast Iron	Tensile Strength ≤ 350N/mm <sup>2</sup>	<b>VP20MF</b>	120 (100 – 140)	0.12 (0.03 – 0.18)

(Note) For machining a narrow groove, apply a lower feed within the recommended range.